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ABSTRACT

This report is an evaluation of the College Discovery and Development (CDD) Program Prong II, operated jointly by the New York City Board of Education and by the City University of New York. This compensatory education program prepares disadvantaged students for college entrance and for success in college. The major purpose of this evaluation is to assess the extent to which the CCD Program is meeting its academic and motivational objectives. It covers the 5 year history of the CCD program to date. Evaluation data were collected from a number of sources using several techniques. The main question explored is that of whether the disadvantaged 9th grade student in the program would have attained comparable levels of motivation, achievement, college entrance and college success had he been in regular high school programs. Another question explored is that of the holding power of the program. The following conclusions address these questions: 1) with respect to senior high school achievement and motivation, there was little to choose between CDD students and modest numbers of non CDD students who were comparable to CDD students in socioeconomic status and junior high school performance level, 2) it is too early as yet to assess the college success of CDD graduates, 3) concerning holding power, two thirds of initial enrollees in the first three CDD classes completed the program through high school graduation, and 4) concerning college entrance, no clear conclusions can be drawn because the program guarantees entrance to a unit of the City University of New York. Other conclusions are offered in the areas of program personnel and student attitudes, the judged value of component features, and program management. (Author/AM)

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EVALUATION OF THE
COLLEGE DISCOVERY AND DEVELOPMENT PROGRAM, PRONG II, 1965-1970

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Authors' Note

Professor Edward Frankel (Lehman College) shared with the senior author the preparation of the first three chapters of this report--the former for most of the descriptive and historical data from earlier CDD reports and files, the latter for most of the analytical data and the Chapter III data on the most recent graduating class. The information in Chapter IV was provided by Professor Sam Duker (Brooklyn College) and by Professor Frankel. The work of Chapter V was conducted by Professor Theodore Abramson (Division of Teacher Education). Chapters VI and VII represent the consensus of all the authors. The report was prepared by the senior author, Professor Leonard J. West (Division of Teacher Education) based in large part on draft materials supplied by his co-authors.

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Chapter I

DESCRIPTION OF THE PROGRAM

This report is an evaluation of the College Discovery and Development (CDD) Program, Prong II--a compensatory education program whose overall objective is to prepare disadvantaged students for college entrance and for success in college. These are students whose chances for admission into and success in college would otherwise be low. To that end, selected 9th graders attend, from 10th through 12th grades, a special educational program in one of five "Centers," one within each of five New York City public high schools. Completion of the CDD Program through high school graduation and the earning of a diploma qualify the student for entrance into one of the units of the City University of New York (CUNY). Some 2500 students have been admitted to the CDD Program during its five years of operation to date (the 1965-69 school years). As of June 1970, the most recent class (Class V) had completed 10th grade, while the successful members of Classes I and II had completed, respectively, the second and first years of college.

The CDD Program is operated jointly by the New York City Board of Education and by The City University of New York, through the University's Division of Teacher Education. The Board's responsibilities are exercised through a Project (or Program) Coordinator. The University's responsibilities are exercised by a Project (or Program) Director. The present evaluation is directed to operation of the Program in the five CDD Centers, under the direction of the Project Coordinator and supported mainly by Title I funds. However, the office of the Program Director, although separately funded, is intimately associated with various aspects of Program operation. Accordingly, the present evaluation considers both Center operations and the functions and activities of the office of the Program Director in relation to those operations.

The major purpose of this evaluation is to assess the extent to which the CDD Program is meeting its objectives. This report covers the 5-year history of the CDD Program to date. Evaluation data were collected from a number of sources, using several techniques: (a) examination and analysis of earlier CDD reports, of formal records maintained by various Program participants, and of student data in CDD and Center files; (b) inter-

viewing of (or questionnaire to) various participants in the Program, usually on a small-sample basis; (c) independent testing of CDD students and of nonCDD control groups; (d) direct observation of classroom instruction; and (e) occasional new analyses of data in CDD files, sometimes in the light of citywide data solicited for evaluation purposes from the New York City Board of Education. As a basis for evaluation of the operations and outcomes of the CDD Program in relation to its stated objectives, a brief description of the Program is given next.

Descriptive Characteristics

Considered, in turn, are the genesis, objectives, characteristics, staffing, and funding of the CDD Program.

Genesis of the Program

The CDD Program grew out of discussions among officials of CUNY and of the Board of Education in New York City on ways and means to insure the successful placing of larger numbers of disadvantaged youth in institutions of higher learning. In February 1964, a Steering Committee, composed of City University and Board of Education representatives, undertook intensive planning, leading to recommendations for two programs that were implemented. The first of these programs, referred to as Prong I, begins in college and focuses on high school graduates who failed to meet minimum standards for admission to CUNY; it has been in operation since July 1964. The second program, CDD Prong II, is located in the high school (10th through 12th grade), and is the subject of the present evaluation.

Following the general outlines laid down by the Steering Committee, details were worked out by a Planning Committee consisting of representatives of The Division of Teacher Education, consultants from senior colleges of CUNY, representatives of the High School Division of the Board of Education, and a representative from each of the five high schools (one in each of the five boroughs of New York City) that had been selected to house a CDD Center. The report of the Planning Committee was accepted by the Steering Committee without major changes. By June 1965, funding had been secured for Program operation (a) in the five Centers and (b) at The City University. The first class of 9th-grade graduates entered the CDD Program in the 10th grade in September 1965. Four other classes, one each year, have since been admitted to the Program; and, as of June 1970, the

screening of applicants for Class VI, to enter 10th grade in September 1970, was under way.

The Planning Committee, having completed its task, discontinued its operation at the end of the second year. The Steering Committee, composed of high ranking officials of CUNY and of the Board of Education, has undergone numerous changes in membership as a result of retirements, leaves of absence, and transfers to other positions. However, despite changes in membership, the functions of the Steering Committee have continued to be to "negotiate formal agreements as necessary for fund, staff, and facilities obligations of each institution, for admission and curriculum criteria or for incorporating policy agreements into the operating directives of the component institutions" (4, p. 14).[1]

CDD Program Objectives

As stated in the report of the Planning Committee and in a number of subsequent CDD reports, the objectives of the Program are:

1. To identify disadvantaged youth who, at the end of the 9th Grade, have heretofore been "undiscovered" in their potential for college
2. To improve their motivation for school work
3. To improve their levels of achievement in school
4. To develop their expectations for college entrance
5. To improve their chances of success in college

As one CDD document comments (4, p. 6), ". . .we really expect each child to commit himself to a seven year program of reversal of his already established pattern of 'failure'."

Program Characteristics

Objective No. 1, above, relates to identification of appropriate candidates for the program from among 9th-grade students. Details on nomination and selection criteria and processes are given below (pp. 8-10). For the present, it is sufficient to state that selection criteria specify low socioeconomic status, academic "potential" in excess of achievement, and positive attitudes toward school or other special characteristics as the major ones. Among these, the "highest priority [was given] to those whose records showed the greatest differential between potential and achievement" (4, p. 4).

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[1]References in parentheses apply to similarly numbered items in the Bibliography of CDD Reports and Documents included in this report. References to nonCDD publications are given in standard form (author, year of publication) and are listed following the bibliography of CDD reports.

Objectives 2-5, above, relate to the characteristics of the Program in the five Centers, one in each of the five boroughs of New York City, located within a high school in that borough, as a "school within a school." Each school serves "a number of poverty areas, some but not all of which have been officially designated as such" (4, p. 1). Upgrading of the achievement, motivation, and expectations of CDD students was expected to result from the following major and distinguishing characteristics of the CDD Program:

1. Small classes (15-20 students per class)
2. Double periods in selected academic subjects
3. Curriculum enrichment: in school and out of school
4. Extensive guidance and counseling services
5. Tutorial services
6. Guarantee of admission to one or another unit of The City University --the unit varying with the high school average--for all who complete the CDD Program through 12th grade and the earning of a high school diploma

CDD Staff and Staff Functions

Superordinate responsibility is a Committee function. The functions and status of the Planning and Steering Committees were described earlier. Policy and procedures associated with the direct conduct of the Program are in the hands of an Advisory Policy Committee (40 persons in 1968-69) consisting of the Program Director and Assistant Director, other CUNY representatives, the Project Coordinator, the five Center Coordinators, 6 parents, 8 CDD students, and 14 representatives of community agencies called Community Progress Centers. The Advisory Policy Committee apparently shares the views and experiences of its members and advises the two key administrative persons (the Project Director and the Project Coordinator) on issues of policy and associated procedures covering such matters as: (a) selection criteria, (b) roles, functions, and responsibilities of the component agencies, (c) definitions of role, functions, responsibilities and relationships of each staff position in each component institution, (d) procedures, schedules, and routine operating patterns, (e) funding, (f) staff selection, orientation and development, and (g) improvement of class and subject organization of teaching methods and materials (4, p. 5). Although committee membership has varied over the years, its functions have been stable.

Management and conduct of the Program is a coordinate responsibility of

the Board of Education through the Project Coordinator and The City University through the Project Director. The functions of these two persons and their associates are described next.

The Project Coordinator is appointed by the Board of Education to administer and supervise Board of Education personnel in the day-to-day operations of the five Centers (5 Center Coordinators, 10 guidance counselors, approximately 75 CDD teachers, and 10 family assistants). The first Project Coordinator served from the initiation of the program until her retirement in February 1970, and was replaced at that time by a former Center Coordinator.

The Project Director is a CUNY appointee who, with his staff (in 1970-1971: an assistant director, a field coordinator, a research coordinator, six program assistants, and two clerical-secretarial persons) furnishes "Central administrative services [including] budget and fiscal; supply and equipment; tutor recruitment, selection, and payroll [and] Staff development services ... provided by ... college professors on weekly part-time assignments" and also participates in the planning and conduct of institutes, workshops, conferences, and tutor orientation and training programs (4 p. 12). The office of the Project Director is also involved--at one level or another and to greater or lesser degree--in numerous aspects of Program operation. In addition, the office of the Program Director is uniquely charged with responsibility for the design and conduct of research associated with the Program. The first Project Director served through the first year of the Program's operation. Upon his acceptance of a position at another university, a new Project Director was appointed in September 1966 and has served since then. There has been the usual turnover among the Project Director's staff; key personnel, however, have been with the office for a number of years. Although many modifications have been made in details, the major operating policies and procedures originally formulated, as well as staff functions, have continued to characterize the Program.

The Center Coordinators, one in each of the five high school Centers, are appointed by the Board of Education and exercise general supervision over the program and staff in the Centers. In addition, each Center Coordinator typically teaches one class, plans enrichment activities, participates in the selection and orientation of students and in planning

their programs, supervises tutors, maintains student records, and prepares an annual report of Center activities. Three of the five Center Coordinators have served continuously during the five years of Program operation to date. One was transferred after 4½ years to the position of Project Coordinator. The fifth person served for 4½ years and then changed to the position of CDD guidance counselor and was replaced by a new Center Coordinator. Substantial stability among Coordinators is evident.

Center Personnel, aside from the Center Coordinators, consist of approximately 75 CDD teachers (an average of 15 per Center), 10 guidance counselors (2 per Center or approximately 1 per 125 CDD students), tutors (approximately 200 per year or 1 per 6 students, generally college students, some of whom in recent years have been graduates of the CDD Program), family assistants (two paraprofessionals per Center, appointed for the first time in 1969 to assist guidance counselors by visiting the homes of potential dropouts), and a secretary. There has been substantial stability among guidance personnel during the 1965-70 period, whereas CDD teaching staffs have been subject to much change over the years.

College Curriculum Consultants are professors in the senior colleges of CUNY, with reduced teaching loads permitting them to consult with and advise Center personnel on curricular matters in the fields of high school English, Mathematics, Foreign Languages, Science, Social Studies and Counseling. This group (consisting of 14 persons in 1968-69) is one which, for various reasons, has experienced continual, substantial turnover.

College (Discovery) Coordinators are in each unit (senior and community college, urban skills center) of CUNY, one per unit. They provide to CDD graduates in their unit general orientation, educational and personal guidance and counseling; and they oversee matters of finances, stipends, fees, books, etc. They reflect the latter part of the description of the CDD Program as a "three-year period in high school, followed by supportive services in the fourth year, when the child is a college freshman" (4, p. 9).

Program Funding

Although the conduct and management of the CDD Program has been a joint enterprise of the Board of Education (represented by the Project Coordinator and his staff, overseeing operations in the five high school Centers) and of The City University (represented by the Project Director and his staff), each of the two has been separately funded, and from a number of

sources for various aspects of Program operation.

City University Funding has been from the following sources:

1. An Upward Bound grant of the Office of Economic Opportunity (OEO) for an 8-week campus residential program for 300 students--in consortium with Columbia University. These funds were reduced in 1969, necessitating reduction of the summer program to 6 weeks and an increase in the non-federal portion of support for the Upward Bound program.

2. A College Work Study Program grant from HEW (US Dept. of Health, Education and Welfare) covering compensation to tutors.

3. A New York State Department of Education grant applicable to the costs of program administration, materials and supplies, staff development and training, and research and research reporting.

4. City University funds for the costs of staff, materials, research, reporting, and facilities not otherwise provided.

5. The Economic Opportunity Council of the Human Resources Administration of New York City, through a Community Action Program (CAP) grant, provided a stipend of $5 per week to 1,000 eligible CDD students during the first two years of Program operation, but it was eliminated thereafter.

Board of Education Funding for installation and maintenance of the Program in the five CDD Centers has been mainly from Title I funds from HEW, with additional Board of Education funding for teaching, guidance, administrative services, and materials and facilities not otherwise provided. Title I funds have kept pace with the growth and expansion of the Program: from $550,000 in 1965 to more than $1,500,000 for the 1969-70 school year. Indicative of some of the less obvious expansions of services now covered are: more cultural activities, glasses for students, clothing, carfare to clinics and hospitals, College Board Test fees; on the other hand, requests for a third guidance counselor at each Center, for teams of school social workers and for school psychologists were not funded.

During the first year of Program operation there was the equivalent of 47 full-time positions in the five high school Centers; by the 1969-70 school year, the total was 107 equivalent full-time positions.

It is judged that funds have not been a limiting factor in implementing the operation of the Program in accordance with its objectives; on the other hand, operations have been accommodated to the available funds.

Chapter II

SELECTION AND CHARACTERISTICS OF CDD STUDENTS

The first objective of the CDD Program is to identify disadvantaged 9th-grade youth who have "undiscovered" potential for college. Evaluation of this objective consists of (a) examination of the extent to which selection has been in accord with specified criteria and of (b) determination of the relationships between selection criteria and the terminal objectives of the Program as measured by subsequent high school achievement. To these ends, nomination and selection criteria and processes are described, as are the characteristics of selectees (at entry and upon completion of 12th grade) in relation to those of a comparison group.

Nomination Processes

Students in the second semester of the 9th grade constitute the population of potential nominees for the CDD Program. Most nominations are made by 9th-grade guidance counselors and a few by personnel of community action programs and social agencies on the basis of economic, achievement, and attitudinal criteria (see below).

Selection Criteria

As stated in an earlier CDD report, "the basic criteria for selection of students have remained unchanged since the Program's inception." Socioeconomic disadvantage has been one prerequisite for admission to the Program, enunciated as basic policy during the earliest planning stages of the CDD Program. A second criterion is academic potential in excess of academic achievement. Third, attitudinal and other special characteristics of students are considered.

The selection criteria are operationally defined as follows:

1. Socioeconomic disadvantage requires a sufficiently low score on the "Life Chances Scale" (see below) and a sufficiently low per capita family income (see below).

2. Academic Achievement is measured by grade point average (GPA) in the first semester of the 9th year.

3. Academic Potential was measured in CDD Classes I and II by scores on the Iowa Test of Educational Development (ITED) and, since then, by reading and arithmetic scores on the Metropolitan Achievement Test (MAT). Both tests (MAT and ITED) are administered citywide by the Board of Education in the 9th grade (MAT reading) and in the 8th grade (MAT arithmetic).

4. Potential in Excess of Achievement has been defined as (a) an ITED score above the 50th percentile of the 9th-grade norm group or MAT scores above the grade-level norms and as (b) a decline in school achievement as measured by grade point average (GPA) during the 7th to 9th years of school or, more generally, as inconsistent and uneven academic performance.

Finally, consideration is given to:

5. Attitudinal and Other Special Characteristics of Students, such as: evidence of leadership, special aptitudes, creativity, personality factors, autobiographical data, good school attendance, absence of severe physical and emotional disability, and strong desire to enter the CDD Program.

The strict application of the objective measures of achievement and potential (selection criteria 2-4, above) was qualified in two respects. First, the typically higher droput rate among high school boys than among girls led to the aim of a 60-40 ratio of male to female selectees. Second, in awareness of the claim that standardized achievement measures (viz., the ITED and MAT) tend to discriminate against the disadvantaged, it was decided to accept approximately 40 percent of nominees without clear evidence of academic potential. In instances in which the criteria relating to grades and test scores were not clearly met, the members of the selection committee indicated that they relied on subjective judgments about the students' personal characteristics (No. 5, above).

Selection Processes

Examination of the records of nominees for selection purposes is carried out by a committee of school and university personnel. Initial screening is done by university personnel. The folders of students who are judged to meet selection criteria are then sorted by borough of residence of the applicant and examined by the Program Coordinator and the two guidance counselors of the Center located in that borough, who join with University personnel in making the final selection from among those applicants who pass the initial screening by the university Program Director and his staff. At various stages of this process, doubtful cases and those involving serious infringement of criteria are adjudicated. Examples: the explanation to a community agency of why a candidate whose annual family income was $19,000 had to be turned down in favor of needy candidates; the acceptance of a recent immigrant from Hong Kong with deficiencies in English

but whose academic record was otherwise satisfactory.

Selection criteria and their definition have admittedly involved the reconciling of "widely different viewpoints among school, college, community and social agency personnel" (4, p. 5), differences that appear to have led in numerous instances to rather fluid application of the formal criteria. Uneasiness in this respect was expressed, during interview, by CDD staff members, who recommended research on selection criteria and more rigorous application of standards. "Potential in relation to achievement" was explicitly quantified only in part; whereas attitudinal and other personal characteristics were left wholly to subjective judgment. An early CDD report (26, p. 6) refers to a rating scale for these personal attributes, but details are not given, and the scale is not mentioned in subsequent reports. For both nomination and selection, generalized impressions of the "pattern" of achievement/potential, intermixed with consideration of attitudinal and special characteristics, seem to have been operative.

Selection Rates

The office of the Project Director has on file a folder for each nominee. A physical count of these folders by the evaluation staff revealed the selection rates displayed in Table 1.

Table 1

CDD Nominations, Invitations, and Rejections, 1965-1970

Class	Year	Number of Nominees	Invited*		Rejected	
			No.	%	No.	%
I	1965	1237	579	46.8	658	53.2
II	1966	1489	523	35.1	966	64.9
III	1967	746	304	40.8	442	59.3
IV	1968	845	556	65.8	289	34.2
V	1969	936	559	59.7	377	40.3
VI	1970	820	565	68.9	255	31.1
Total		6073	3086	50.8	2987	49.2

*Approximately 10 percent of those invited to attend the Program do not in fact enrol; presumably mostly due to a change of mind about the CDD Program during the summer that intervenes between junior and senior high school.

As shown in Table 1, the larger pool of nominees during the first two years, in the light of the number of places available in the program, necessarily led to higher rejection rates than in later years. Table 1 shows that more than 500 nominees were selected each year; the exception in 1967 was in anticipation of a reduction in funding. The reduction in number of nominees after the second year probably reflects competition with the College Bound Program.[2] Additional evidence for the inroads made on the CDD Program by the College Bound Program lies in the changing distribution of junior and senior high school CDD nominees, as shown in Table 2.[3]

Table 2

Distribution of Junior and Senior High School CDD Selectees, 1965-69

		Junior H.S.		Senior H.S.	
Year	Total	No.	%	No.	%
1965	587	436	74.3	151	25.7
1966	531	366	68.9	165	31.1
1967	302	188	62.3	114	37.7
1968	517	340	65.8	177	34.2
1969	577	372	64.5	205	35.5
Total	2514	1702	67.7	812	32.3

[2] That program, also for disadvantaged youngsters, shares a number of features with the CDD Program (small classes, intensive guidance, family assistants, tutoring, cultural enrichment, a summer program) and was introduced in 1967 in 24 New York City High Schools for about 3,000 9th and 10th graders. In contrast, the CDD program is limited to one high school in each of five boroughs and can therefore accommodate a smaller number of students. In addition, those who successfully complete the College Bound Program are admitted to one of 107 colleges in the College Bound consortium; whereas CDD graduates have guaranteed admission only to a unit of The City University.

[3] Disagreement in the "total" figures for various groups of CDD students (invitees, enrollees, graduates, dropouts) occurs in this report because the sources of data are not themselves in agreement. In each such instance, the data reported are judged to be the most reliable ones, in awareness that even they are subject to possible error by an unknown, but probably small, amount.

With the College Bound Program draining off 9th graders, starting in 1967, CDD selectees from the junior high schools dropped 12 percent (from 74.3 percent to 62.3 percent), and the percentage of selectees has continued since then to be lower than during the first two years of CDD operation. Another increasingly influential factor that may be expected to reduce input from the junior high schools in coming years is the phasing out of the 3-year junior high school (grades 7-9) and its replacement by the 4-year intermediate school, covering grades 5 through 8.

Selectee Characteristics

Treated in turn are (a) vital statistics (sex, age, ethnicity), (b) socioeconomic variables (Life Chances score and per capita family income), (c) school achievement (grade point average for first half of 9th grade), and (d) measures of academic potential (ITED and MAT scores) of the youngsters who were selected for the CDD Program from the larger number of nominees. In numerous instances, the data apply to those invited to attend rather than to those actually enrolled in the Program. This is because the formal CDD reports from which the data were taken apply to the former group, some 10 percent of whom failed to enroll in the Program in the school year following their selection.

For convenience in reporting, each selection criterion is first treated independently; then the joint operation of the various criteria is discussed.

Sex. The objective of a 60-40 ratio of boys to girls was in anticipation of the characteristically higher high school dropout rate among males and was also based "on the assumption that among the disadvantaged it is the male who, lacking in education and salable skills, is likely to be unemployed and to desert the family. Moreover, the female is likely to marry early and forego a college education, even though she may show considerable college potential" (25, p. 7). The objective of a 60-40 ratio was met in the first CDD class. Since then, the ratios have progressively tended through equality to slightly more females than males. Details are shown in Table 3 (p. 13).

The extent to which the CDD Program might have modified the characteristic differential dropout rates of boys and girls is not known because CDD records do not classify dropouts by sex.

Table 3

Sex Distribution of CDD Selectees, 1965-69

Year	Number		Percent	
	Boys	Girls	Boys	Girls
1965	355	224	61.2	38.8
1966	293	218	57.2	42.7
1967	162	129	55.7	44.3
1968	252	238	51.6	48.4
1969	254	268	48.7	51.3
Total	1316	1077	55.0	45.0

Age. The mean age of CDD selectees, year by year, fluctuated between 183.5 and 185.1 months (15 years and 3 to 4 months). Selectees in the first two CDD classes covered a wider age range (SDs of 10.4 and 15.6 months) than did those in CDD Classes III and IV (SDs of 7.1 and 6.4 months).

Ethnicity. The CDD Program was intended to be racially integrated in proportions for each category approximately paralleling citywide ethnic distributions or, at least, those of all students in the five high schools that housed CDD Centers. During the period 1965-69 there was a marked shift in the ethnic distribution of school populations--citywide, in the five host schools, and among CDD students--as shown in Table 4.

Table 4

Percentage of Negro and Spanish-Speaking Students In Various School Populations, 1965 and 1969

Year	5 Host Schools	CDD Students	Citywide	
			Jr. HS	Acad. HS
1965	42.6	65.2	48.4	22.6
1969	61.7	84.6	57.2	41.7
Gain	19.1	19.4	8.8	19.1

Sources: Citywide data is from the New York City Bd. of Education's Annual Census of School Population, October 31, 1969, p. 10; CDD and Host School data are from CDD files and records.

Table 4 shows that from 1965 to 1969 there were equivalent percentage increases in black and Spanish-speaking students in the CDD Centers, in the five host schools, and in the city's academic high schools.[4] That is, the trend and its magnitude (19 percent) are the same. However, it is apparent that in relation to the citywide distribution in the academic high schools, black and Spanish-speaking students taken together occur in much larger proportions in the five host schools and in still larger proportions among CDD students. As between CDD students and those in the five host schools, the data of Table 5 make apparent that the disproportion applies mostly to blacks, rather than to Spanish-speaking students.

Table 5

Ethnic Distribution of CDD and of All Students in the Host Schools

(In percentages)

	Negro		Spanish-Speaking		Others	
Year	CDD	School	CDD	School	CDD	School
1965	42.3	20.4	22.9	22.2	34.8	57.4
1966	46.2	23.7	20.5	22.0	33.3	54.3
1967	52.9	25.9	22.0	24.8	25.1	49.4
1968	51.2	28.3	24.9	28.9	23.9	42.9
1969	63.9	30.5	20.7	31.2	15.4	38.3
Total	51.2	25.8	22.2	25.8	26.6	48.4
N	1226	25,240	532	25,560	638	47,804

Table 5 shows that the proportions of Spanish-speaking students in the host schools during the first four years of the 1965-69 period did not differ by more than four percent from those of the CDD students. The disproportion is mainly among blacks, who are approximately twice as frequent in the CDD population as in the host schools. In fact, that ratio is an underestimate because CDD students are included in the schoolwide totals. Were the two groups (CDD and nonCDD students in the host schools) to be counted

[4] Differences between the junior high school and senior high school citywide data of Table 4 may reflect the movement of many black and Spanish-speaking junior high school graduates into nonacademic programs in nonacademic high schools--precisely the phenomenon the CDD Program is aimed at reversing.

separately, the disparity would be even greater.

While the ethnic trends during the 5-year period of CDD operation to date have general applicability, there are differences among Centers. Details, annually by Center, are displayed in Table 6 (page 16).

The trend toward a minority-segregated CDD population, in excess of that for the city as a whole, is evident in the data of Tables 4-6. Center personnel, during interview, expressed concern about that trend and suggested that it be counteracted. However, a compensatory education program that makes socioeconomic (and accompanying educational) disadvantage a prerequisite for admission--in a city in which the disadvantaged are overwhelmingly black and Spanish-speaking--will necessarily attract disproportionate numbers in those ethnic groups.

Socioeconomic Status. Nominees complete a "Personal Information Form." Seven of the items on that form, as used in 1965, were adapted from the Life Chances Scale of Dentler and Monroe (1961), measuring (1) family structure, (2) father's education, (3) mother's education, (4) size of family, (5) father's occupation, (6) birthplace of father, and (7) birthplace of mother. The lower the family status, the lower the score, with 7 points as the maximum possible score. In 1966 and thereafter, the scale and its scoring were modified (mother's occupation was added), and 9 was made the maximum possible score. The favored nominees, those with the poorest life chances, have the following characteristics: broken homes, more than four siblings, father and mother born in the South or in Puerto Rico and not high school graduates, living in overcrowded conditions, in a family on welfare or receiving aid to dependent children.

"Life Chances" data on CDD selectees are displayed in Table 7 (page 17). The data demonstrate that screening of nominees on socioeconomic status as measured by the scale was indeed in accord with specifications.

The second index of socioeconomic status employed as a selection criterion is Weekly per Capita Family Income. The income data on CDD selectees are shown in Table 8 (page 17).

The increase to a per capita income in 1968 of $21.03, shown in Table 8, probably reflects wage and welfare increases. At any rate, the data of Table 8 substantiate that the typical CDD selectee was from a family living at marginal subsistence levels. Considered together with the Life Chances data, it is clear that the specified socioeconomic criteria for CDD selection were met.

Table 6

Ethnic Distribution in each of Five Centers, by Year*

(In percentages)

[B = Black, Sp = Spanish speaking, O = Other]

Year	Center I				Center II				Center III				Center IV				Center V			
	No.	B	Sp	O	No.	B	Sp	O	No.	B	Sp	O	No.	B	Sp	O	No.	B	Sp	O
1965	125	41.6	35.2	23.2	121	50.4	11.6	38.0	121	40.5	35.5	24.0	92	57.6	18.5	23.9	99	21.2	10.1	68.7
1966	89	51.7	25.8	22.5	120	47.5	25.0	27.5	99	43.4	34.3	22.3	106	62.3	7.5	30.2	97	24.7	10.3	65.0
1967	56	50.0	39.3	10.7	60	61.7	21.7	16.6	59	52.5	37.3	10.2	57	73.7	3.5	22.8	59	27.1	8.5	64.4
1968	103	53.4	39.8	6.8	104	61.5	29.8	8.7	100	53.0	39.0	8.0	84	66.7	1.2	32.1	99	23.2	10.1	66.7
1969	118	64.4	31.4	4.2	120	72.5	25.0	2.5	98	62.2	26.5	11.3	109	84.4	3.7	11.9	101	32.7	15.8	51.5
Total	491	52.2	34.3	13.5	525	58.7	22.6	18.7	477	50.3	34.5	15.2	448	68.9	6.9	24.2	455	25.8	11.0	63.2

*For row totals, see the CDD columns of Table 5.

Table 7

"Life Chances" Scores of CDD Selectees (by Class)

Class	N	Mean	SD
I	574	1.98	1.67
II	497	2.83	1.82
III	218	3.21	1.71
IV	426	3.66	1.94
V	564	3.03	*

*Datum not available.

Table 8

Weekly Family and Per Capita Income of CDD Students, 1965-1968*

Item	1965 CDD I	1966 CDD II	1967 CDD III	1968 CDD IV
No. of Students	519	469	268	450
Family Income, Mean	$97.53	$100.24	$98.94	$114.20
Family Income, SD	$36.37	$ 34.94	$33.76	$ 41.53
Average No. in Family	5.24	5.51	5.56	5.53
Per Capita Income, Mean	$18.61	$ 18.19	$17.80	$ 21.03

*Data for 1969, Class V, were not available as of the time of preparation of this report.

School Achievement. In accordance with the specifications of the Advisory Policy Committee, the formal measure of the school achievement of nominees was taken as grade point average (GPA) in major subjects during the first half of the 9th year (Table 9, p. 18). Full year averages could not be used because nomination had to take place during the spring semester of the 9th year, before teachers' grades for the latter half of the year were available.

Table 9

Grade Point Average for First Half of 9th Year
(By year)

CDD Class	N	Mean	SD
I	571	75.61	8.30
II	502	74.61	7.60
III[a]	215	76.57	6.44
IV	463	75.75	7.96
V	539	76.35	7.26
All Years	2359	75.49	*

*Not determinable from the available data.

[a]To correct an error in the original CDD report, values for CDD III were recomputed for students still in the Program in their senior year.

If 75 may be taken as average achievement in the schools of this country, then CDD selectees may be characterized, on the average, as youngsters of average academic achievement. However, the typical performance of these students is well below the minimum required for admission to a senior college of CUNY during the 1965-69 period. Prior to the institution of the University's "Open Admissions" policy in 1970, performance at the level of these CDD selectees would not have qualified them for entrance to a senior college of The City University. A major objective of the CDD Program is, in fact, to raise the academic performance of selectees to a level adequate for City University (and other college) attendance.

To determine in more detail the academic levels of CDD selectees in relation to college admission standards and to examine the application of selection criteria, the evaluators drew from the collection of selectee folders in CDD files a random sample of 10 students from each CDD Center in each of the first three years of Program operation. These are entry years whose students would have been graduated from the Program by June 1970. With five Centers, the sample of 50 students from each of the first two years is approximately 1/11 of the average of about 550 selectees in each of those years; for Class III, the sample of 50 is approximately 1/6 of the

304 selectees in that year. In the same fashion, in order to assess the application of selection criteria, a parallel sample of rejectees (nominees who were not admitted to the Program) was drawn from CDD files: 10 students from each of the 5 boroughs in each of the first 3 years of program operation--persons whose records showed that they met the economic criteria for admission to the Program. For each of the first three years, in turn, the sample of 50 rejectees in each year constituted, respectively, 7.6%, 5.27%, and 11.3% of all rejectees in the applicable year. For these two samples of 150 selectees and 150 rejectees in the first three years of Program operation, the distribution of grade point averages in major subjects for the first half of the 9th year is shown in Table 10.

Table 10

Distribution of 9th-Grade GPAs of a Random Sample Of CDD Selectees and Rejectees, 1965-1967

GPA	Selectees		Rejectees	
	No.	Cum. %	No.	Cum. %
55-59			7	4.7
60-64	1		16	15.3
65-69	16	11.3	27	33.3
70-74	30	31.3	41	60.7
75-79	39	57.3	27	78.7
80-84	38	82.7	18	90.7
85-89	21	96.7	12	98.7
90-94	5	100.0	2	100.0
Total	150		150	
Mean	77.85		72.72	
SD	6.36		7.81	

Notes. Chi square for the two frequency distributions equals 37.819, for which $p < .01$. The means also differ significantly ($t = 6.24$, for which $p < .01$).

The data in Table 10 should be considered in the light of the recommendation by the Planning Committee (CDD Report No. 26) that students with GPAs below 65 or above 80 should not be accepted for the Program.

Table 10 shows the virtually complete absence of selectees with failing averages (below 65), but that more than two-fifths of them had averages above 79 (35 percent had GPAs of 81 or higher). In contrast, some 15 percent of rejectees performed below minimum passing levels in the first half of the 9th year. Also evident is the substantially larger proportion of selectees than of rejectees with GPAs in the 80's or higher. The distributions of the two groups differ significantly ($p < .01$); the two phenomena (below 65 and above 80), taken together, account in large part for the statistically significant 5-point difference in mean GPA (77.85 - 72.72), and they identify the bases for selection from among nominees with regard to the criterion of 9th-grade average. It is apparent from the data of Table 10 that achievement per se, apart from "potential in excess of achievement," is an operative selection criterion: failing students are rejected and substantial numbers of students with averages in the 80's or higher are accepted.

Setting aside other college-entrance criteria (SAT scores and rank in class) and dealing only with high school GPA, with 82 as the high school GPA that presently qualifies a person for admission to one of the senior colleges of The City University, 27.3 percent of the sample of 159 selectees had 9th-grade averages at that level or higher. Compared to those with GPAs below 82, one could assume that a large proportion of the high-achieving students would attain senior college admission if they were to maintain in senior high school their junior high school levels of academic performance.

Use of academic average in major subjects for the first half of the 9th year provides a more narrowly based estimate of junior high school achievement than would the use of all of junior high school performance over the five semesters from the first half of the 7th year through the first half of the 9th year. As shown in Table 11 (p. 21), moderate shifts in the distribution of GPAs of selectees over these two time periods are apparent. However, neither the distributions nor the means differ significantly.

The use as a criterion of 9th-grade GPA, rather than of all junior high school achievement to date, is presumably due to the specification, as one selection criterion, of "erratic" or "declining" grades.

Table 11

Distribution of GPAs of a Random Sample of Selectees For 9th Year and for All of Junior High School

GPA	9th Year		All of JHS	
	No.	%	No.	%
60-64	1	.7	0	0.0
65-69	16	10.7	6	4.0
70-74	30	20.0	37	24.7
75-79	39	26.0	39	26.0
80-84	38	25.3	46	30.7
85-89	21	14.0	19	12.7
90-94	5	3.3	3	2.0
Total	150	100.0	150	100.1
Mean	77.85		78.73	
SD	6.36		5.49	

With the specification of declining grades as a criterion, comparison between various portions of junior high school experience was mandatory. None of the CDD reports or documents specify any measure of variability or of decline in grades that was to be applied to the examination of junior high school grades. To examine the extent of changes in GPA during junior high school and, indeed, to assess the extent to which the formal specification of variability or of decline in grades was used as a selection criterion, as well as the propriety of that criterion, the GPAs of the randomly selected sample of 150 selectees were compared for various periods of junior high school attendance. For each individual, his GPA for all of Grade 7, for all of Grade 8, and for all five semesters through the first half of the 9th year was subtracted, in turn, from his GPA for 9F (fall semester of 9th year). Negative differences are in accord with the selection criterion of a decline in GPA; positive differences indicate a 9F GPA higher than for other periods, in contradiction of the criterion. The pertinent data are displayed in Table 12 (p. 22).

Table 12

Distribution of GPA Differences
Between Various Junior High School Grade Levels
For a Sample of Selectees*

Difference	9F-7		9F-8		9F-JHS	
	No.	%	No.	%	No.	%
Minus						
15-19	5		11		0	
10-14	21		10		4	
5-9	17		34		29	
1-4	25		30		46	
Subtotal	68	45.3	85	56.7	79	52.7
No change	12	8.0	7	4.6	13	8.7
Plus						
1-4	29		32		43	
5-9	30		18		14	
10-14	8		6		1	
15-19	2		2		0	
20-24	0		0		0	
25-29	1		0		0	
Subtotal	70	46.7	58	38.7	58	38.7
Total	150	100.0	150	100.0	150	100.1

*To illustrate the reading of the table, the "5" at the top of the first No. column means that there were 5 persons whose GPA in the fall of the 9th year was 15-19 points below the GPA for all of the 7th year. The pair of columns at the extreme right applies to the 9F GPA versus the GPA for all five semesters of junior high school (JHS) through fall of the 9th year.

As shown in the percentage columns of Table 12, for about half the selectees (45 to 57 percent) there was a decrement in academic performance during the junior high school years, in accord with the selection criterion. With the other half of selectees showing "no change" or "plus" values, it is apparent that--considered in isolation, independent of other selection factors--the criterion of a drop in academic performance has not been systematically applied to the screening of nominees for the Program.

Additional data on this issue are summarized in Table 13, which displays the number and percentage of selectees and rejectees, sampled from the first three years of Program operation, whose GPA for the first half of the 9th year was below, at, or above GPAs for other portions of junior high school attendance.

Table 13

Direction of Change in GPAs Between Various JHS Grade Levels Among Selectees and Rejectees

Direction	9F-7				9F-8				9F-JHS			
	Selectees		Rejectees		Selectees		Rejectees		Selectees		Rejectees	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Drop	68	45.3	81	54.0	85	56.7	76	50.7	79	52.7	77	51.3
No change	12	8.0	6	4.0	7	4.6	14	9.3	13	8.7	9	6.0
Gain	70	46.7	63	42.0	58	38.7	60	40.0	58	38.7	64	42.7
Total	150	100.0	150	100.0	150	100.0	150	100.0	150	100.0	150	100.0
Mean Change	- .63		-1.48		-2.15		-1.80		- .86		-1.03	
SD	7.94		9.16		7.16		7.35		4.54		5.07	

Note. For 9F-7, chi square = 3.502, for which $p > .10$; for 9F-8, chi square = 2.870, for which $p > .20$; for 9F-JHS, chi square = 1.193, for which $p > .50$.

As described in the footnote to Table 13, selectees and rejectees did not differ in the numbers of students whose 9th-year GPAs were below, at, or above GPAs for other portions of high school attendance. The usefulness of inconsistent or erratic junior high school academic performance as a selection criterion should probably be reconsidered. In any event the mean or average change and the SDs (standard deviations)--for selectees--shown in the last two rows of Table 13 can most readily be interpreted by reference to the actual numbers of persons at GPA differences of various sizes, displayed in Table 12. That is, the distribution of differences is not clustered closely around a small negative average change; they are instead spread quite widely above and below "no change." Although parallel distributions for rejectees are not shown in Table 12, the SDs for rejectees (Table 13) demonstrate a comparably wide spread around a small negative average change.

Academic "Potential" is measured by percentile scores on the ITED, used for CDD Classes I and II (1965, 1966), and by grade level scores on the MAT for reading (vocabulary and paragraph meaning) and arithmetic (problem solving and computation), used in CDD Classes III-V (1967-1969). The ITED and MAT are achievement tests, but their use as measures of "potential" was specified at the outset by the Advisory Policy Committee on the grounds that they are valid predictors of future achievement in that they measure the skills basic to achievement in many school subjects. Also, they offer a standardized means of obtaining those measures. In any event, "high potential" was specified as a selection criterion and was defined as ITED scores above the 50th percentile norms or as MAT scores above grade level norms. The ITED and the MAT reading test are typically administered in the 9th grade, usually in January, at mid-year; but in a few instances selectee scores (in the sample of 150 persons from Classes I-III) were found to be for 8th- and for 7th-grade administration, in proportions presumably approximating that for all CDD students. ITED data for Classes I and II (all CDD students, not the sample of 150) are shown in Table 14.

Table 14

Junior High School ITED Percentile Scores
Of CDD Classes I and II

Variable	1965 CDD I	1966 CDD II
N	507	441
Mean	68.87	64.12
SD	14.69	16.47

As shown in Table 14, the mean ITED percentile scores were, in accord with specifications, above the national norms: specifically, close to the top third of the national distribution of scores. In fact, the means and standard deviations reveal, assuming a normal distribution, that about one-sixth of selectees earned scores placing them in the top fifth nationally (i.e., above the 80th percentile). MAT reading data, paralleling the ITED data of Table 14, are shown in Table 15 (p. 25), together with citywide means.

Table 15

Junior High School MAT Reading Grade Level Scores
Of CDD Classes I-V and Citywide

Year	CDD Students			Citywide
	N	Mean	SD	Mean
1965	468	10.28	1.44	9.2
1966	447	10.36	1.42	9.1
1967	258	9.86	1.88[a]	9.0
1968[b]	328	9.26	1.53	8.8
1969	439	9.23	1.77	8.7

[a]Roughly estimated from a necessary correction to the scores given in an earlier CDD report (No. 8, Tables 36 and 37).

[b]To correct an error in the original CDD report, values were recomputed for those still in the program in the spring of 1970.

For each of the first three CDD classes, the mean reading score, as shown in Table 15, was clearly above grade. Taking mid-9th year administration as typical, the data of Table 15 for Classes I-III show that the average selectee was reading at about .8 years above grade level (10.3 - 9.5). Further, assuming a normal distribution of scores, the means and standard deviations in Table 15 reveal from 31 to 33 percent of those in Classes I and II reading at or above 11th-grade levels.[5] Further, what would appear (from Table 15) to be a dropoff in reading level in Classes IV and V may not in fact be the case. Informal checking of from 10-20 student folders in CDD files for 1968 and 1969 (Classes IV and V) showed that many took the MAT reading test in the 8th grade (about half

[5]Illustratively: with a mean of 10.28 in Class I, adding .72 would raise that mean to 11.0. With an SD of 1.44, .72 is .50 of that SD, and scores in excess of .50 SDs are obtained by 31 percent of examinees--in a normal distribution. Actually, 31 percent of sample selectees in Classes I and II scored at or above 11th-grade levels (Table 16, p.26) providing excellent agreement between the obtained data and theoretical expectations.

of the small number of folders examined). Thus, the Table 15 means for the 1968 and 1969 classes cannot be precisely interpreted for the purpose of determining differences between potential and achievement.

As a check on the distribution of junior high school reading grade levels, the data for the random sample of 50 CDD selectees from each of the first three CDD classes are shown in Table 16. For consistency of interpretation all scores were MAT scores (found on the records of CDD I and II selectees for whom ITED, rather than MAT, scores were formally used as a basis for selection).

Table 16

Distribution of MAT Reading Grade Level Scores
Of a Random Sample of CDD Selectees

Interval	Number				Cum. %
	CDD I	CDD II	CDD III	Total	
4.0- 4.4		1		1	.7
6.0- 6.4			1	1	1.3
7.0- 7.4		1	4	5	4.7
7.5- 7.9	1	3	2	6	8.7
8.0- 8.4	4	3	7	14	18.0
8.5- 8.9	3	3	1	7	22.7
9.0- 9.4	7	3	5	15	32.7
9.5- 9.9	9	3	4	16	43.3
10.0-10.4	8	11	6	25	60.0
10.5-10.9	2	7	7	16	70.7
11.0-11.4	5	7	5	17	82.0
11.5-11.9	7	6	7	20	95.3
12.0-12.4	3	2	0	5	98.7
12.5-12.9	1	0	1	2	100.0
Total	50	50	50	150	
Mean	10.17	10.06	9.78	10.04	
SD	1.25	1.49	1.56	1.44	

As shown in the cumulative percent column of Table 16, and assuming test administration for all at the middle of the 9th year, 40 percent of selectees were reading at least one-half year above grade level, and 30 percent were reading at least one full year above grade level. Across all three years the mean (of 10.04) is one-half year above grade level. For the 137 (of the 150) persons who took the test in the 9th grade, the mean was 10.06.

With "potential" defined, in part, as reading proficiency in excess of grade level, the distribution of scores below, at, and above grade level defines the extent to which selection was in accord with the criterion of "high potential." For the purposes, the grade in which the MAT was taken was recorded in whole year intervals.[6] In addition, to check on the prominence of reading as an index of potential and in relation to other selection criteria, the same information was tallied for a random sample of 50 rejectees in each of the first three years--using only those who met socioeconomic criteria. For these two samples (of 150 selectees and 150 rejectees from among the nominees in the first three years of Program operation), the distribution of reading scores below, at, and above grade level is shown in Table 17.

Table 17

Percentage Distribution of Selectees and Rejectees With MAT Reading Scores Below, At, and Above Grade Level

Status	Selectees	Rejectees
Below Grade Level	18.7	42.0
At Grade Level	24.0	21.3
Above Grade Level	57.3	36.7
	100.0	100.0

Note. N = 150 selectees and 150 rejectees randomly sampled from the first three years of Program operation.

[6] Any MAT score between 9.0 and 9.9 was tallied as "at" grade level for all who took the test in (any month of) the 9th grade, even though the score may have been a few months above or below the particular month in the 9th school year in which the test was taken; parallel procedures were used for those who took the test in the 7th or in the 8th grade.

The frequencies underlying the percentages of Table 17 differ significantly (Chi square = 14.286, for which $p < .01$). For the sample of selectees, nearly three in every five (57.3 percent) met the criterion of potential in excess of achievement; the remaining two in five did not do so and were presumably admitted to the Program on the basis of other criteria. The data for the sample of rejectees show that more than one-third (36.7 percent) met the selection criterion of potential in excess of achievement. They were presumably rejected because they failed to meet other (nonachievement) criteria or, possibly, their arithmetic scores or 9th-grade GPAs were notably below par. These findings, for both selectees and rejectees, suggest that admission to the program did not require meeting every selection criterion, nor was satisfying any one criterion a sufficient basis for admission. Instead, for selectees, it would appear that strengths in some respects were judged to counterbalance weaknesses in other respects.

Turning, next, to arithmetic achievement as a selection criterion, MAT junior high school grade level means are displayed in Table 18 for CDD Classes II-V and citywide. Data for CDD I was not available; for CDD II only the Problem Solving subtest was administered; for Classes III-V the composite of Problem Solving and Computation means are shown.

Table 18

Junior High School MAT Arithmetic Grade Level Scores of CDD Classes II-V and Citywide

Variable	II 1966[a]	III 1967[b]	IV 1968[b]	V 1969
CDD Classes				
N	377	141	290	283
Mean	8.00	8.15	7.78	7.42
SD	1.25	1.32	1.56	2.03
Citywide Mean	7.65	7.65	7.35	7.25

[a] For "Problem Solving" only in CDD II. For CDD III-V, the values are for a composite of Problem Solving and Computation scores.

[b] To correct errors in the original CDD reports, values were recomputed by the office of the Program Director for a large sample of students.

For the sample of 150 selectees, it was found that 146 took the MAT arithmetic test in the 8th grade. If parallel relative frequencies apply to Classes IV and V, then the data of Table 18 show CDD arithmetic potential to be from a few months to one full year below grade level. Selection from among nominees on the basis of potential in excess of achievement does not apply to arithmetic achievement. The selection criterion of underachievement (i.e., below potential) has been applied to reading, not to arithmetic. It may no doubt be presumed that arithmetic achievement was not deliberately ignored in favor of giving all the weight to reading; instead, it may be that arithmetic potential in excess of achievement was infrequent among nominees. In any event, as evident from the citywide means of Table 18, CDD selectees were above the average of all 9th graders in the city schools. Also, the CDD decline over the years parallels that for the city as a whole. The citywide means are, by the way, below the 50th percentile for the national norm group.

Parallel to the reading data of Table 16, and for the same purposes, Table 19 displays arithmetic data for the sample of 150 selectees, year by year for Classes I-III. In Class I the Stanford Achievement Test was administered; in subsequent years, the MAT. However, the distribution of scores for the Stanford is so little different from that for the MAT in Classes II and III that data are shown and interpreted for the three classes taken together. Of the total of 150 persons, 146 were tested in the 8th grade; for them, the mean grade level score was 8.16. The four persons who took the test in the 9th grade had scores sufficient to raise the mean for all 150 persons to the 8.18 shown in Table 19 (p. 30).

The mean of 8.18 for all 150 persons shown in Table 19 is several months below grade level (assumed 8.5), and only about one-fourth of the sample selectees had arithmetic scores above grade level. Details for the sample of selectees, as well as for the parallel sample of rejectees, are shown in Table 20 (p. 30). In it, the frequencies underlying the percentages differ significantly ($p < .01$).

In contrast to reading potential, for which 57 percent of selectees scored above grade level (Table 17), Table 20 shows that only 26 percent scored above grade level in arithmetic. Of every 20 selectees, 16 read at or above 9th-grade level; whereas 11 demonstrated arithmetic proficiency at or above 8th-grade level (81 percent for reading, 55 percent

Table 19

Distribution of JHS Arithmetic Grade Level Scores Of a Random Sample of CDD Selectees*

Interval	Number				Cum. %
	CDD I	CDD II	CDD III	Total	
5.0- 5.4			1	1	.7
5.5- 5.9	2	1	0	3	2.7
6.0- 6.4	2	0	4	6	6.7
6.5- 6.9	5	3	4	12	14.7
7.0- 7.4	6	4	8	18	26.7
7.5- 7.9	6	14	9	29	46.0
8.0- 8.4	10	12	6	28	64.7
8.5- 8.9	8	4	2	14	74.0
9.0- 9.4	3	3	6	12	82.0
9.5- 9.9	2	4	4	10	88.7
10.0-10.4	4	5	2	11	96.0
10.5-10.9	2	0	4	6	100.0
Total	50	50	50	150	
Mean	8.15	8.28	8.16	8.18	
SD	1.25	.99	1.38	1.21	

*CDD I students took the Stanford test; the others took the MAT.

Table 20

Percentage Distribution of Selectees and Rejectees With JHS Arithmetic Scores Below, At, and Above Grade Level

Status	Selectees	Rejectees
Below Grade Level	45.3	70.0
At Grade Level	28.7	22.7
Above Grade Level	26.0	7.3
	100.0	100.0

Note. N = 150 selectees and 150 rejectees randomly sampled from the first three years of Program operation.

for arithmetic). Potential in excess of achievement in arithmetic applies to only a modest proportion of selectees. The 30 percent of rejectees whose arithmetic scores were at or above grade level (and who met economic criteria) were presumably rejected because they failed to meet other selection criteria; reading score too low, 9th-grade GPA too high (or too low), or for various deficiencies in attitudinal or other personal characteristics. At the same time, the significant difference between the selectee-rejectee frequencies underlying the percentages of Table 20 demonstrates that selection for arithmetic proficiency has been in the direction of potential in excess of achievement.

The data of Tables 16 and 17 (for reading) and of Tables 19 and 20 (for arithmetic) show that the selection criterion of potential in excess of achievement was somewhat better than half met for reading (57 percent of selectees) and poorly met for arithmetic (26 percent of selectees). No doubt other academic selection factors were influential (e.g., grade point average per se); and it may be that the pool of nominees did not provide enough persons who met economic criteria who were also found to have reading and, especially, arithmetic grade level scores in excess of the grade level in which the test was taken.

Summary of Selectee-Rejectee Differences

As is evident from the display in Table 21 of the findings of *t* tests for differences between selectee and rejectee means for the junior high school measures of achievement and potential, selectees were significantly superior to rejectees.

Table 21

Analysis (t-test) of Selectee-Rejectee Differences

Variable	Selectee		Rejectee		Diff. betw. Means	t
	Mean	SD	Mean	SD		
GPA 9F	77.85	6.36	72.72	7.81	5.13	6.24*
GPA JHS	78.72	5.49	73.75	6.35	4.97	7.26*
MAT Reading	10.00	1.44	9.13	1.58	.87	5.00*
MAT Arithmetic	8.06	1.45	7.20	1.28	.86	5.40*
GPA 9F - GPA 7	- .63	7.94	-1.34	9. 6	-.71	.72
GPA 9F - GPA 8	-2.08	7.16	-1.81	7.35	.27	.33

*p < .01.

The data of Table 21 are based on all 150 selectees and 150 rejectees (50 in each group from each of the first three CDD years), without differentiating for the grade during which the MAT reading and arithmetic tests were taken. As shown in the column for differences between means, selectees had a GPA about 5 points higher, and reading and arithmetic skills about .85 grade levels higher, than rejectees. The chances are fewer than 1 in 100 that the superiority of the selectees in the two measures of school achievement and in the two measures of potential is due to chance. On the other hand, the differences between the two groups with respect to amount of shift in GPA from one to another portion of junior high school attendance (shown below the dashed line in Table 21) are not significant.

VALIDITY OF THE ACADEMIC SELECTION CRITERIA

The concern is with whether the academic bases for CDD selection are related to the academic objectives of the CDD Program. One basis for CDD selection is grade point average in major subjects during the first half of the 9th year. Those with failing averages were almost entirely excluded, as were, purportedly, those with averages too high to suggest any need for compensatory and enriched education through a special program. The second academic selection basis is formally given in CDD source documents as "potential in excess of achievement," defined as standardized test scores in reading and in arithmetic above grade level.

Among the various purposes or objectives of the CDD Program, a chief academic one that can be measured at this time is given as "To improve their levels of achievement in school." "School," here, means high school; for with one modest exception to be mentioned shortly, estimation of college achievement must await the passage of enough time for at least one or two of the CDD classes to have completed their college work (1972 for CDD I, 1973 for CDD II, and so on).

The question of the validity of the selection criteria now becomes: to what extent are they related to academic performance in high school? On that score, the rationale for the use of 9th-grade GPA and of "potential" is apparent. Since measures of the same thing should be expected to show good agreement, the 9th-grade GPAs of CDD selectees should be expected to be related to their subsequent senior high school GPAs in the CDD Program.

The rationale for "potential" as a selection factor is a bit more subtle. College preparatory or academic subjects presumably place a heavy demand on reading; there are textbooks for the various school subjects, and they are to be read. Similarly for the applicability of arithmetic skills to some mathematics courses and to some aspects of some of the natural and social sciences. Insofar as teachers' grades are influenced by nonacademic factors and insofar as the academic performance of students as measured by grades is susceptible to influence by factors in addition to their abilities, the standardized measures of reading and arithmetic skills may be thought of as less biased measures of academic attainments and capacities than are teachers' grades. Finally, when potential or "real" attainment is found to be in excess of the norm, one might judge such a person as a good bet or good risk for satisfactory or for improved academic performance. Concerted attention throughout the high school years of the CDD Program to the motivation and attitudes of students is in large part aimed at removing whatever earlier negative attitudes and weak motivations toward school had been depressing achievement below potential, thus allowing potential to reveal itself in improved performance.

What, then, are the relationships between the various academic selection factors and academic achievement in senior high school? Indeed, are the measures of potential taken in junior high school related to junior high school GPAs? That is, are reading and arithmetic skills, as measured by standardized tests, related to school performance at that time, let alone to school performance at a later time? The correlational data, pertinent to the questions at issue are shown in conventional matrix form in Table 22 (p. 34). Intercorrelations are shown:

A. Among the predictors

1. GPA for the first half of the 9th year (GPA 9F)
2. GPA for all of junior high school through 9F (GPA JHS)
3. MAT reading grade level (JHS Read.)
4. MAT (or Stanford) arithmetic grade level (JHS Arith.)
5. Reading potential in relation to achievement (Read. P/A); i.e., reading score below, at, or above grade level
6. Arithmetic potential in relation to achievement (Arith. P/A)

B. Among the criteria

7. City University Open Admissions Test Reading Score (OA Read.)

8. City University Open Admissions Test Arithmetic Score (OA Arith.)

9. GPA for grades 10-12 in senior high school (GPA SHS)

C. And between each predictor and each criterion variable

The City University Open Admissions[7] Tests were first given in 1970; the correlations for that test therefore apply only to the sample of 50 selectees in Class III. All the other correlations (except as given in the table footnotes) are based on 150 selectees across Classes I-III--those who at present writing had completed the senior high school CDD Program.

Table 22

Intercorrelations Among Academic Selection Factors in Junior High School And Later Achievement Measures

Variable	2	3	4	5	6	7[a]	8[a]	9
1. GPA 9F	.71	.02[b]	.22[c]	.01	.22	-.06	-.01	.33
2. GPA JHS		-.03[b]	.10[c]	-.01	.19	-.11	-.14	.39
3. JHS Read.			.12	.89	.11	.68[d]	-.08	.24[b]
4. JHS Arith.				.16	.61	.10	.58[e]	.14[c]
5. Read P/A					.13	-.03	-.09	.14
6. Arith. P/A						.06	.14	.12
7. OA Read.							.92	-.02
8. OA Arith.								.02
9. GPA SHS								

[a] N = 50 selectees in Class III, except as given in footnotes d and e.

[b] N = 137 selectees tested for junior high school reading in 9th grade.

[c] N = 146 selectees tested for junior high school arithmetic in the 8th grade.

[d] N = 47 Class III selectees, tested for junior high school reading in the 9th grade.

[e] N = 49 Class III selectees, tested for junior high school arithmetic in the 8th grade.

[7] The Open Admissions policy was first implemented in 1970 and is aimed at providing collegiate education to those whose earlier academic performance is below that normally (i.e., previously) required for City University admission. The tests are given to identify those in need of remedial work. For an early report on Open Admissions testing for 1970, see Kay (1970).

Considering, first, GPA 9F as a selection factor, it correlates appreciably, as should be expected, with GPA for all five junior high school semesters ($r = .71$). But the latter factor is the better predictor of GPA for the senior high school years (.39 vs. .33).[8] That finding is in accord with expectations in that five semesters is a larger, and therefore more reliable, sample of achievement that is one semester. Accordingly, it would appear that a 5-semester, rather than a 1-semester, junior high school GPA should be used as the major school achievement selection factor--especially since change in academic performance during the junior high school years, originally specified as one basis for selection, has not been and apparently cannot be readily implemented.

Turning, next, to the measures of potential (junior high school MAT scores in reading and arithmetic, Variables 3 and 4), their correlations with 9th-year GPA (.02 and .22), with 5-semester GPA (-.03 and .10), and with senior high school GPA (.24 and .14) are so close to zero[9] as to call into question their validity as selection factors.[10] Since standardized measures of reading and arithmetic skills are typically at least moderately correlated with academic performance as measured by grades, an explanation for the negligibly small obtained correlations must be sought. The explanation does not lie in restriction of the range of scores: teachers' grades range between the 60's and the 90's (Table 11); reading scores, from 7th- through 12th-grade levels (Table 16); and arithmetic scores, from 5th- through 10th-grade levels (Table 19). Instead, perhaps teachers' grades in junior high school are too heavily influenced by nonachievement factors. Another speculation arises from the common tendency of teachers to teach orally in class what is contained in the textbook, either before or after a textbook reading assignment is made.

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[8] The two correlations do not differ significantly. But if a difference of about the same size were found for the many hundreds of CDD students (as contrasted with the sample of 150), it would be a significant one.

[9] For $N = 150$, r's of .161 and .210 are significantly different from zero at the .05 and .01 levels, respectively.

[10] For the sample of 150 rejectees, as well as for the 130 of those 150 who were tested for reading in the 9th grade, the correlation between junior high school GPA and the MAT reading score was .00.

With such tactics, students learn that they need not read their textbooks because the teacher will "tell it to them" in class. Thus, grades could be reasonably accurate measures of achievement, but achievement could be largely based on attentiveness in class and on other considerations, rather that on reading skills applied to textbook assignments. Whatever the explanation may be of the trivially small correlations between MAT scores and achievement in junior and senior high school as measured by grades, MAT scores as bases for CDD selection appear to be, by themselves, rather weak ones. The hypotheses about the limited validity of standardized measures of reading and arithmetic skills as predictors of school achievement as measured by teachers' grades are further supported by the near-zero correlations between senior high school grade point average and the Open Admissions Tests scores (-.02 and .02).

The substantial correlations between the junior high school measures of reading and arithmetic skills and the senior high school, Open Admissions, measures (.68 and .58) are in accord with the inevitable tendency for two measures of the same thing to be appreciably correlated over time. Also notable is the very high correlation (.92) between the Open Admissions reading and arithmetic scores. One would be tempted to account for its size in the presumed high relationship of both reading and arithmetic to general intelligence; that is, A is highly correlated with B because each is highly correlated with a third thing, C. However, the trivial correlation (.12) between the two measures in the junior high school (Variables 3 and 4) contrasts sharply with the high correlation (.92) for the two Open Admissions measures (Variables 7 and 8). The discrepancy between the two correlations (.92 and .12) remains a puzzle.

The only presently available additional correlational data are in a study of the college freshman performance of graduates of CDD Class I (CDD Report No. 9). In it, for the 140-150 persons for whom both college transcripts and other data could be secured (among the approximately 290 who were attending college), the correlation of GPA for the first half of the 9th year in junior high school (GPA 9F) with senior high school GPA (6 semesters, years 10-12) was .311 (very like the $\underline{r}$ = .33 for the same variables in Table 22); between GPA 9F and college freshman quality point average, $\underline{r}$ = .441. The pertinent correlations, together with selected correlations drawn from Table 22 for the sample of 150 graduates in CDD Classes

I-III, are shown in Table 23.

Table 23

Intercorrelations Between Predictors and Achievement Measures For Each of Two CDD Samples

Ns = 140-150 Class I Graduates		N = 150 Sample Graduates From Classes I-III	
Predictor	College Freshman QPA	Predictor	SHS GPA
GPA 9F	.295	GPA 9F	.33
GPA SHS	.441	GPA JHS	.39
SAT Verbal	.204	JHS Rad.	.24
SAT Math.	.176	JHS Arith.	.14
SAT Total	.227		
Composite*	.419		
SHS Rank	.329		

*SHS GPA plus SAT Total

Source: College freshman correlations are from unpublished data relating to CDD Report No. 9.

The left half of Table 23 relates various earlier measures to college freshman achievement; the right half, to senior high school achievement. In the first four rows of the table, the entries at the left are conceptually parallel to those on the right. The differences between the members of each of the four pairs of correlation coefficients are small: junior high school GPA is nearly as closely related to senior high school GPA (.39) as senior high GPA is to college freshman achievement (.44); similarly for the pairs of entries in rows 1, 3, and 4. Mainly, both in high school and in college (for these samples of disadvantaged students, at any rate), achievement as measured by teachers' grades is better predicted by previous grades than by scores on standardized tests.

In summary on the validity of CDD academic selection factors, the Program objective of improved academic performance requires that the bases for selecting Program participants from among junior high school nominees be related to academic achievement in the senior high school and, later,

to college performance. As a predictor of teachers' grades in senior high school, GPA through the first five semesters of junior high school is more powerful (r = .39) that is GPA for the first half of the 9th year alone (r = .33) and than either of the two measures of potential (r's of .24 and .14).[11] As a predictor of college freshman achievement, GPA for the first half of the 9th year (r = .295) is slightly weaker than it is as a predictor of senior high school grades (r = .33). The implications of these findings for potential reconsideration of selection criteria are discussed in the final chapter of "Conclusions and Recommendations."

Concerning nonacademic selection factors other than socioeconomic status (attitudinal and other personal characteristics not measurable by tests or grades), no useful evaluation can presently be made. An early CDD report (No. 26) refers to a rating scale for such factors, but this early attempt to quantify such factors seems to have died aborning. Possibilities for coming to grips with such factors are discussed in the "Recommendations" chapter of this report.

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[11] For the Ns involved in the samples, an r of .39 is significantly different from r = .14, but not from r = .24. The inference of superiority of junior high school GPA is predicated on the supposition that r's of about the same size would be found for the much larger group of all CDD students.

Chapter III

ACHIEVEMENT OF ACADEMIC AND MOTIVATIONAL OBJECTIVES

Of the five major Program objectives listed on page 3, the first, relating to identification of "undiscovered" potential, has been partially discussed in the preceding section on the validity of selection criteria. Additional information bearing on that objective is given later in this section, as is information on motivational status (Objective 2). Regarding Objective 4 ("To develop their expectations for college entrance"), as worded, some measure of "expectations" would be required. No such measure has been made nor, so far as is known, does one exist. Instead, there is no recourse but to take that objective as meaning Program completion rates or college entry rates. To the student for whom college entrance would ordinarily be unthinkable, if "expectations" have been "developed," then he should be expected to complete the senior high school work through graduation and enter college. Of course, the initial flat guarantee of entrance into some unit of The City University requires only high school attendance through graduation, regardless of grade point average in senior high school. The recently instituted Open Admissions policy has substantially the same effect and does not require participating in a special high school program. In any event, Objective 4 (college expectations) is one for which holding power or Program retention rates (or its obverse, dropout rates) is one pertinent basis for evaluation, the other is college entry rates. Data on both criteria are given later in this section. The remaining objective (No. 3, "To improve their levels of achievement in school") is the one that most immediately tests the effects of the CDD Program and is treated first.

Improvement in School Achievement

Contrary to Program expectations, a general decrement in school achievement is revealed by the distributions of junior and senior high school grade point averages for the sample of 50 selectees from each of the first three CDD Classes, as shown in Table 24 (p. 40). Both the distributions and the means differ significantly (chi square = 33.55 and $\underline{t} = 6.015$, for which $p < .01$).

The average decrement of nearly five points of course applies to

those who completed the CDD Program through high school graduation--exclusive of dropouts, whose academic performance while in the Program must be presumed to have been appreciably below that of those who remained. Another consequence of the Program is in accord with the typical effect of increased practice or experience on complex behaviors: individual differences increase, as shown by the larger standard deviation for senior than for junior high school GPA.

Table 24

Distribution of Junior and Senior High School GPAs Of a Sample of 150 Selectees

GPA Interval	Junior HS	Senior HS
55-59		4
60-64		7
65-69	6	22
70-74	37	44
75-79	39	36
80-84	46	31
85-89	19	6
90-94	3	0
Total	150	150
Mean	78.73	73.83
SD	5.49	8.33

More precise information on changes in achievement is displayed in Table 25 (p. 41), showing the size and direction of change in GPA (senior minus junior high school). Negative differences mean a drop in performance (contrary to Program objectives); positive ones mean a gain in achievement (in accord with objectives).

Contrary to expectations, Table 25 shows that three-fourths of selectees declined in academic achievement in senior high school. In fact, nearly one-fifth of them (28 persons or 18.7 percent) showed a decline of 10 points or more. Unless the grading practices of senior high school teachers are based on higher standards than those of junior high school

teachers--a possibly gratuitous hypothesis on which the authors know of no pertinent data--the CDD Program objective of improved achievement has not been met.

Table 25

Distribution of Differences
Between Senior and Junior High School GPA
For a Sample of 150 Selectees*

SHS-JHS	Number		%
Minus			
15-19	7		
10-14	21		
5-9	49		
1-4	36		
Subtotal		113	75.3
No change		10	6.7
Plus			
1-4	20		
5-9	6		
10-14	1		
Subtotal		27	18.0
Total		150	100.0
Mean Change	-4.46		
SD	5.76		

*To illustrate the reading of the table: The 7 at the top of the number column means that there were 7 persons whose senior high school GPAs were from 15-19 points below their junior high school GPAs.

CUNY Open Admissions Test Scores. Data on Open Admissions Test scores of CDD graduates in Class III, in relation to those of a control group, are given later in this section. Selected data for the sample of 50 Class III selectees are given first to permit comparisons with their junior high school status. The Open Admissions measures are standardized

tests in high school reading and junior high school arithmetic computation. For the reading test (ceiling raw score of 65), there are national norms and CUNY norms; for the arithmetic computation test (ceiling raw score of 41), there are 9th grade norms and norms for CUNY applicants. Score distributions for the 50 Class III selectees, accompanied by selected norms, are displayed in Table 26.

Table 26

CUNY Open Admissions Test Scores
Of 50 Class III Graduates
And Selected Normative Data

Score Interval	Number	
	Reading	Arith
5-9		1
10-14		5
15-19		8
20-24	2	3
25-29	8	8
30-34	10	15
35-39	13	8
40-44	10	2
45-49	3	
50-54	3	
55-59	1	
Total	50	50
Mean	36.9	26.4
SD	7.8	8.8
Norms (50th %ile)		
National		
College Prep. Srs.	47	
All HS Srs.	42	
College Prep. 9th Gr.	35	
All 9th Graders	29	28
CUNY Applicants	40	30

Source: Normative data is from Kay (1970, Table 2).

The mean reading score of the sample selectees shown in Table 26 (36.9) is at the 42nd percentile for all CUNY applicants, at the 20th percentile for college preparatory seniors nationwide, and at the 34th percentile for the national norm group of all high school seniors. The CDD Program is formally defined as a college preparatory program, with the focus on the academic subjects characteristic of such programs. Apparently, the typical reading level of the CDD graduate is at the upper border of the lowest fifth of all college preparatory high school graduates nationwide, and just beyond the upper border of the lowest third of all high school graduates nationwide. The bench marks (i.e., percentiles) for CUNY applicants of course reflect both the high scores of the traditional applicants from the top fifth of New York City academic high school students and the low scores of the disadvantaged populations at whom the Open Admissions policy is aimed, both from CDD and other special educational programs, as well as from ordinary curricula. Among those persons, the typical sample selectee is at the 42nd percentile for reading, below the average for all CUNY applicants. If one assumes that "a 9th grade reading ability is necessary to success in college level courses" (Kay, 1970, p. 11), then the sample of CDD high school seniors had an average reading score (at 36.9) a little above the average score for the nation's 9th graders in college preparatory programs (35), and substantially above those of 9th graders in general (29). However, these 50 students had a mean reading grade level of 9.78 (Table 16) when they were 9th graders; so that their average reading status as high school seniors should probably be taken as indicative of a modest gain in reading grade level during the three years of the CDD senior high school experience.

Concerning arithmetic scores, the mean for the 50 sample selectees of 26.4 is at the 41st percentile for all CUNY applicants. As inferred from a grade-level equivalent of 9.6 for a raw score of 27 among 9th graders nationwide (Kay, 1970, Table 3), the mean performance of the CDD graduate is at a level within the lower half of the 9th grade. However, it may be noted (in Table 26) that the distribution of arithmetic scores is skewed toward the low end. In contrast to the mean score of 26.4, the median score is 29.5--probably equivalent to low 10th-grade levels. In view of the mean arithmetic grade level of 8.16 (on the MAT) when these graduates

were 8th graders (Table 19), there would appear to have been a gain in arithmetic grade level of about 2 years over the subsequent 4-year period (1 more year in junior high school plus 3 years of senior high school). Of course, the extent to which grade-level scores on the MAT and on the open admissions test are comparable is unknown, so that the estimate of a gain of about 2 years over a 4-year period is a very approximate one. For the same reason, the "modest gain in reading grade level" mentioned earlier must also be taken as an approximation.

In summary on the effects of the CDD Program on reading and arithmetic skills as measured by the CUNY Open Admissions Tests administered in the spring of the senior year in high school--and in the light of the unknown comparability of the junior high school MAT scores and the senior high school Open Admissions scores--gains seem to have been achieved; but they are not of a size equivalent to the number of years of intervening schooling. It is virtually certain that the CDD experience did not result in a year's gain in grade level for reading and for arithmetic for each year of schooling. Whether gains in reading and arithmetic skills paralleling increases in amount of schooling are characteristic of heterogeneous student populations is not known for New York City students because the Board of Education does not conduct an annual testing program in these skills during the senior high school years. Besides, the kinds of tests that might be given do not have a high enough ceiling to reveal stepwise annual gains by those whose initial (9th year) status was already at 11th- and 12th-year levels.

Holding Power

For the formal Program objectives stated as: "To improve their motivation for school work" and "To develop their expectations for college entrance," no direct measures of "motivation" or of "expectations" were employed by the Program administrators. Instead, it is necessary to posit three variables as indirect indices of motivation and of expectations; Program completion rates, college entrance rates, and absence rates.[12] The assumption is that the student with high motivation for school and strong desire to attend college (a) completes the CDD Program through high school

[12]Absenteeism among CDD students is treated in Part II of this report in relation to absenteeism among control groups of nonCDD students.

graduation, (b) enters college, and (c) is seldom absent from school.

Program Completion Rates. The percentage of CDD enrollees who completed the Program through high school graduation is the complement of the 33.0 percent dropout rate shown in the extreme right-hand column of Table 27 for CDD Classes I-III; namely, 67.0 percent. "Dropouts" cover all categories of Program leavers: those who terminate their education before high school graduation, as well as those who continue their high school education outside the Program. No data are available from CDD records that distinguish these two categories of Program leavers. Classes IV and V are still in high school, having completed as of June 1970 two and one year(s) of Program attendance. Table 27 also displays the numbers of students invited to attend the Program, as determined from a number of different CDD records.[13]

Table 27

CDD Enrollment, Graduation, and Dropout Statistics

Class	Yrs. in Program	Number					Percent Dropped[d]
		Invited	Initially Enrolled[a]	Grads.[b]	Holdover 9/70	Dropped[c]	
I	3	579	550	383	0	167	30.4
II	3	562	523	322	2	199	38.0
III	3	304	291	195	12	84	28.9
Sub-total			(1364)	(900)	(14)	(450)	33.0
IV	2	557	490		402	88	18.0
V	1	617	562		527	35	6.2
Total		2619	2416[e]				

[a] See Footnote 13.

[b] As of October 1970 (i.e., including holdover graduates).

[c] In Classes I-III, obtained by subtraction of graduates and holdovers from initial enrollees.

[d] Of initial enrollees.

[e] 92.2 percent of invitees including, in some but not all instances, late-entering "alternates" to replace "no shows" among original invitees.

[13] In relation to invitees, the number of enrollees in Table 27 could

Subject to the reservations given in Footnote 13, it appears from Table 27 that about 9 in every 10 students invited to enroll in the Program in fact enroll. To what extent the "no shows" represent a change of mind by the student or his family about the Program or, instead, residential mobility is not known. In any event, for Classes I-III, graduated from the Program by August 1970, the complement of the dropout rates shown in the extreme right-hand column of Table 27 (expressed as a percentage of enrollees) indicates that about two out of three entrants completed the Program. Insofar as the frequencies for enrollees may not include all late entrants to the Program, whereas graduate frequencies do include them, it may be that attrition, as given here, has been somewhat underestimated and holding power somewhat overestimated.

In each CDD class a number of students do not complete senior high school in three years, but require up to an additional two years to meet graduation requirements. These persons are "holdovers," as designated in Table 27. In CDD Classes I and II, approximately seven-eighths of initial enrollees were graduated on time, one-eighth were held over. For a sample of dropouts in Classes I and II (those whose time of leaving the Program could be identified), it was found that the largest attrition occurred during the 11th year (about 16 percent of those who started the 11th grade, in contrast to more modest rates in other years), possibly coinciding with the legal minimum age for school-leaving for many CDD students. In relation to the dropout rates of Classes IV and V (Table 27), that for Class I during the first two years and for Class II during the first year were higher. If the trend continues, the dropout rates of Classes IV and V at graduation time will be below those of Classes I and II at that time, signaling an improvement in holding power of the Program.

To assess the CDD attrition rate in Classes I-III of 33.0 percent (Table 27) in relation to Program objectives, a comparison or reference group is needed as a criterion or yardstick. No clearly parallel reference group can presently be identified. A special report of the U.S. Department of Labor (Perella, 1969) states that, nationwide, of the 15 million 16- to 24-year-old youths who were no longer in school in October 1968, 3 out of 10

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not be determined in a uniform fashion for all classes. For some years, enrollees include late entrants into the Program; in other years, not.

did not have a high school diploma. But the base figure covers all youth; separate data are not given for the pertinent subcategory of the socioeconomically disadvantaged. The same reservation applies to data from the New York State Department of Education, shown in Table 28.

Table 28

Percentage of 9th Graders
Not Graduated from Senior High School[a]

Area	1967[b]	1970[c]	1974[d]
New York State	23.8	23.0	23.0
Big Six Cities[e]	34.7	34.8	23.3
New York City	36.1	36.1[f]	23.0

[a]Data from "New York State Plan" (undated).

[b]Actual

[c]Estimated

[d]Projected

[e]Albany, Buffalo, New York, Rochester, Syracuse, Yonkers

[f]Corrected to 40 percent in a later report quoted by Hamill (1970).

Table 28 shows that of those enrolled in the 9th grade in the New York City public schools in the 1963-64 school year, as of their scheduled senior high school graduation in 1967, 36.1 percent of them were nongraduates.[14] That figure is in excess of the CDD attrition rate of 33.0 percent; but the State's figure for New York City includes those who left

[14]Nongraduates are those who leave the City schools for any reason, including completion of their high school education in a nonpublic school or out of the City or the State. CDD attrition also covers all categories of Program leavers, including those who transfer to another City high school.

the public schools upon completion of the 9th grade, before entering a senior high school program whose beginning parallels the beginning of the CDD Program. Thus, Table 28 does not provide a clearly parallel attrition rate against which to assess the CDD rate; its data are suggestive rather than definitive as a criterion.[15]

Additional attrition data, supplied by the New York City Board of Education, are displayed in Table 29.

Table 29

New York City Senior High School Dropout and Discharge Rates

Year	Academic High Schools		All High School Dropouts[a]
	Dropout[a]	Discharge[b]	
1965-66	10.38	16.47	10.78
1966-67	10.42	16.68	10.93
1967-68	*	*	11.09
1968-69	*	*	12.07
1969-70	*	*	11.91

[a]Those who leave school before graduation who are (a) over 17 and have parent's permission or (b) 16-17 years old and have full-time employment certificates. All other categories of school leavers are excluded.

[b]Includes dropouts plus those who leave for other reasons: moving out of the City, transfer to nonpublic school, married, physical or other medical condition, and "not found."

*Estimated by the Board of Education (in response to phoned inquiry) as within a few percentage points of the figures for 1965 and 1966.

The distinction between "dropout" and "discharge," given in the footnotes

[15]One optimistic expectation evident in Table 28 may be mentioned in passing: the forecast of substantial reduction in attrition between 1970 and 1974. The projection for 1974 is of Big City attrition rates equal to those for the smaller cities and towns (about 23 percent). Attrition in "rest of State" (the non-Big Six Cities) is projected to increase (between 1967 and 1974) from 16 to 23 percent (not shown in Table 28), presumably in the expectation of movement of disadvantaged families out of the big cities to other areas.

to Table 29, is important; for in the absence of information about the intentions of CDD dropouts upon leaving the Program, it is not known how many continued their high school education through graduation outside the Program. CDD attrition is a measure of leaving the Program, not necessarily of leaving school before graduation. It may also be inferred (from the small differences in dropout rates as between the academic high schools and all high schools shown in Table 29) that the dropout rates in the vocational high schools (into which many CDD students might have entered in the absence of a CDD Program) are very little higher than those for academic high schools.[16] The chief distinction in the form of the data is that the CDD attrition shown in Table 27 is cumulative or longitudinal, whereas the citywide data of Table 29 are annual across all the high school grades. Table 30 provides graduation and attrition data for CDD Classes I and II combined, together with citywide data for the same time period (the senior high school years of the classes scheduled to graduate in 1968 and 1969, combined). Class III is not included because parallel citywide data for the 1970 graduation year are not yet available.

Table 30

CDD and Citywide Senior High School Attrition and Retention Percentages (1968-69 Graduation Years Combined)[a]

Group	Graduated	Dropped
Citywide	53.8	46.2
CDD	65.9	34.1
Difference	-12.1	12.1

[a]CDD data are from Table 27. Citywide data are based on frequencies furnished by the Bureau of Program Research and Statistics of the New York City Board of Education.

[16]For example, analysis of the frequencies underlying the percentages of Table 29 (not shown) reveals dropout rates in the vocational high schools in the 1965 and 1966 school years of 12.8 and 13.7 percent respectively, in contrast to the academic percentages of 10.38 and 10.42.

Table 30 shows CDD attrition in Classes I and II combined as about 17 in every 50 Program entrants (34.1 percent); citywide attrition consists of about 23 of every 50 10th-grade entrants (46.2 percent)--35 percent again as large as the CDD loss rates. Again, however, citywide data mirror migration into and out of New York City and its public schools throughout the senior high school period (e.g., outmigration of middle class students to suburban school systems); whereas there is virtually no CDD inmigration after the 10th grade. Also, CDD data apply to a disadvantaged population; citywide data, to all students. In consequence, as stated earlier, no firm estimate can be made of the extent to which the CDD Program has achieved its objectives of improving motivation for school work and expectations for college entrance--as measured by holding power. At one extreme, if one assumes that CDD dropouts do not complete their high school education elsewhere, the CDD attrition rate (for Classes I-III) of 33.0 percent is virtually identical to the parallel citywide rate of about 33 percent (three times the annual dropout rates for all high schools shown in Table 29). At the other extreme, making no assumptions about whether CDD Program leavers complete their high school education elsewhere, the CDD loss rate (in Classes I-II) of 34.1 percent is substantially below the citywide rate of 46.2 percent (Table 30). A best estimate is that the attrition rate among CDD students is below citywide rates, but by an amount that cannot be closely estimated from the presently available data.

College-Acceptance Rates. The college-acceptance rates of CDD graduates in Classes I-III who earned their high school diplomas by August 1970 are summarized in Table 31 (p. 51). "Acceptance" rather than "Entrance" is the necessary term because CDD records are compiled as of the time of high school graduation and the summer months following; they show only what college among the one or more which accepted the graduate's applications the graduate has stated his intention to attend. Information about actual college entrance and attendance is not routinely available in CDD records.

As shown in Table 31, nearly all CDD graduates (95.9 percent) stated their intention to attend a college which has accepted them. The college-acceptance rates for Class III in Table 31 might be slightly inflated because, at present writing, firm verification of college acceptance for several dozen Class III graduates was not yet available. However, since admission to a unit of the City University is guaranteed to 1970 graduates

of New York City public high schools, it is virtually certain that the "unverifieds" will be accepted by some college, if not necessarily the one of their first choice.

Table 31

College-Acceptance Rates Among CDD Graduates, Classes I-III

Status	Number				Percent			
	I	II	III	Total	I	II	III	Total
College	369	298	181	848	97.1	94.6	95.8	95.9
No College	11	17	8	36	2.9	5.4	4.2	4.1
No Info.	3	7	6	16				
Total Grads.	383	322	195	900	100.0	100.0	100.0	100.0

With respect to the Program objective of college attendance, it is apparent that the CDD Program has brought all but four percent of its graduates in Classes I-III to the point of announcing their intention to attend a college which had accepted the graduate's application. At the initiation of the Program in 1965 it was hoped that Program graduates would meet requirements for attendance in a 4-year, senior college, liberal arts and sciences program. However, in realistic expectation of some graduates meeting more modest goals, guidelines for admission of CDD graduates into various units of CUNY were established. Those pertaining to high school GPA (independent of SAT scores and class rank) are:

1. For entry into a 4-year CUNY senior college program leading to a baccalaureate degree: high school GPA of at least 82.
2. For entry into a 2-year transfer program in a community college of CUNY, with automatic admission to the junior year of senior college upon earning an A.A. or A.S. degree: high school GPA of at least 77.
3. For entry into a 2-year terminal career program in a community college of CUNY (technical and general education leading to an A.A.S. degree): high school GPA of at least 70.
4. For entry into an Urban Skills Center (specific occupational training, plus remedial services aimed at enabling students to

meet requirements for senior college admission): high school GPA below 70.

The foregoing guidelines were meant to be suggestive rather than prescriptive. They were intended to match the CDD input into CUNY to the typical nonCDD entrant with respect to academic performance. With the implementation of Open Admissions in 1970, the GPA guidelines were no longer in effect because they no longer characterized the typical nonCDD entrant to CUNY. The GPA status of CDD graduates in relation to the guidelines will shortly be discussed. First, the details of college acceptance are shown in Table 32 for the 848 persons who stated their intention to attend a college that had accepted them (including "unverifieds").

Table 32

Type of College Acceptance for Graduates of Classes I-III

Type of Program	Percent			Total	
	CDD I	CDD II	CDD III	Number	Percent
City University Senior College[a]	11.9	8.1	37.6	136	16.0
CC Transfer[b]	44.7	33.9	27.6	316	37.3
CC Career[c]	14.9	26.8	11.0	155	18.3
Urban Skills Center[d]	9.4	2.0	0.0	41	4.8
Total CUNY	81.0	70.8	76.2	648	76.4
SUNY[e]	6.8	8.1	6.1	60	7.1
Private College	12.2	21.1	17.7	140	16.5
Total College	100.0	100.0	100.0		100.0
Number	369	298	181	848	

[a]These are: Baruch, Brooklyn, City, Hunter, John Jay, Lehman, Queens, York.

[b]Community college program leading to transfer to a senior college after two years.

[c]Two-year community college terminal program.

[d]Specific occupational training plus remedial services.

[e]State University of New York.

Differences among the three CDD classes in the college levels they planned to attend are apparent in Table 32, especially in Class III in which the University's Open Admissions policy admitted much larger proportions into a senior college of the University (37.6 percent) than in earlier years (11.9 and 8.1 percent). With regard to the extreme goal of senior college admission (in CUNY, SUNY, or a private college), two out of five graduates were admitted (16.0 + 7.1 + 16.5 = 39.6 percent). Excepting Class III, one of three graduates of Classes I and II (33.7 percent) declared their intention to attend a senior college (CUNY, SUNY, or private) that had accepted them. The college intentions of CDD graduates may be approximately summarized as follows: of every 40 who plan to attend college, 16 designate a senior college, 15 a community college providing the possibility of transfer to a senior college, while the remaining 9 will presumably terminate their formal education in a college program not exceeding two years.

With respect to the Program objective of developing expectations for college attendance, it is apparent that that objective has been overwhelmingly met for the two-thirds of Program enrollees who continued in the Program through high school graduation; all but 4-5 percent of them were accepted by a college or University unit to which they applied. No clear assessment of Program objectives with regard to college level is possible because of the fluidity of admission standards: in the City University and in the private colleges, which admitted numbers of students whose high school academic performance was below that characteristic for admission in earlier years. Details on high school academic performance and on diplomas earned--in relation to college acceptances--are discussed next.

Graduation Status of Graduates

Graduation status is expressed by two variables: type of high school diploma and grade point average over the six semesters of grades 9-11.

Type of Diploma. The distribution of high school diplomas for graduates of CDD Classes I-III are displayed in Table 33 (p. 54).

As shown in Table 33, about five of every eight graduates (62.3 percent) earned the academic diploma at which the Program is aimed. No information is available on diplomas earned by nonCDD students, so that

no independent criterion exists against which to assess the CDD diploma distribution. On its own terms, in relation to a CDD Program defined as an academic one leading to an academic diploma, the extent to which that objective has been achieved must be described as moderate.

Table 33

Distribution of High School Diplomas of Graduates of Classes I-III

Diploma	Number				Percent			
	I	II	III	Total	I	II	III	Total
Academic	244	214	102	560	63.7	66.4	52.6	62.3
General	138	108	92	338	36.0	33.5	47.4	37.6
Commercial	1	0	0	1	0.2	0.0	0.0	.1
No Info.	0	0	1	1				
Total Grads.	383	322	195	900	99.9	99.9	100.0	100.0

High School Grade Point Average. The five CDD Centers report the grade point average of graduates for the six semesters from the 9th through the 11th years. Grades for the 12th (senior) year are not reported because college applications must be filed before 7th-semester or 4th-year grades are available. The 6-semester distribution of GPAs is shown in Table 34 (p. 55), arranged in class intervals corresponding to the guidelines for admission to the various units of CUNY, as given on pp. 51-52.

For the 1,288 invitees into Classes I-III, the mean entering GPA was 75.4 (Table 9, p. 18). For the 846 graduates of Classes I-III for whom high school GPAs were available, the median GPA, as shown in Table 34, was 75.2. The level of academic performance has not, however, remained stable. The junior high school mean GPA includes the performance of Program dropouts, who presumably are the poorer students academically. Were the 9th-grade mean GPA to have been computed for graduates, excluding dropouts, it would presumably be higher than 75. Thus, contrary to Program objectives, there was a decline in academic performance, possibly approximating the 5½-point decrement found for the sample of graduating selectees Table 24, p. 40). Of course, the entering GPAs of Table 9 are part of the

final GPAs of Table 34, and entering GPAs are not available for the particular 846 graduates of Classes I-III; accordingly an unconfounded test of the objective of improvement in academic performance has been provided on a sample, but not a population, basis. However, the inference about dropouts in relation to the objective supports the conclusion drawn here. So do the sample findings of Table 24.

Table 34

Distribution of High School GPAs of CDD Classes I-III

(Grades 9-11)

GPA	Number				Percent			
	I	II	III	Total	I	II	III	Total
Below 70	83	52	27	162	23.9	17.0	13.9	19.1
70 - 76.9	127	123	101	351	36.6	40.3	52.1	41.5
77 - 81.9	80	83	37	200	23.1	27.2	19.1	23.6
82+	57	47	29	133	16.4	15.4	14.9	15.7
No info.	36	17	1	54	--	--	--	--
Total Grads.	383	322	195	900	100.0	99.9	100.0	99.9
Median[a]	75.0	75.7	74.9	75.2				

[a]Medians are based on graduates for whom GPAs were available, excluding those for whom the information was missing.

Also shown in Table 34 is that three-fifths of graduates had GPAs below 77; nearly one-fourth, between 77 and 81; and fewer than one-sixth at the 82 or higher levels ordinarily required for admission to a senior college of The City University.

GPAs in Relation to CUNY Entrance Guidelines. To provide an estimate of the extent to which college admissions to units of CUNY were in accord with the guideline criteria of specified minimum high school GPAs, the distribution of entrants into the various CUNY units are displayed in Table 35 (p. 56), together with the distribution of high school GPAs of those entrants, classified according to the GPA guidelines. The reading of the table is explained in its first footnote.

Table 35

High School GPA in Relation to CUNY Entrance*

(Classes I-III)

Variable	I		II		III		Total	
	N	%	N	%	N	%	N	%
Senior Coll.	44	14.7	24	11.4	68	49.3	136	21.0
GPA 82+	72	27.4	30	15.2	21	15.7	123	20.7
CC Transfer[a]	165	55.2	101	47.9	50	36.2	316	48.8
GPA 77-81	110	41.8	92	46.5	76	56.7	278	46.7
CC Career[b]	55	18.4	80	37.9	20	14.5	155	23.9
GPA 70-76	52	19.8	53	26.8	25	18.7	130	21.8
Urban Center	35	11.7	6	2.8	0	0.0	41	6.3
GPA below 70	29	11.0	23	11.6	12	9.0	64	10.8
College Total	299	100.0	211	100.0	138	100.0	648	100.0
GPA Total	263	100.0	198	100.1	134	100.1	595	100.0

*To illustrate the reading of the table: of 299 Class I applicants to CUNY, 44 or 14.7 percent applied to a senior college; of the 263 Class I graduates applying to CUNY for whom high school GPAs were available, 72 or 27.4 percent of them had a GPA in excess of 82.

[a]Community College program leading to potential transfer after two years to a senior college.

[b]Community College Career program, terminating after two years, but with possible transfer to a senior college.

Table 35 is based on the 648 graduates of Classes I-III who stated their intention to enter a unit of The City University and on the 595 of those persons for whom a high school GPA was available. In Class I, little more than half of those who met GPA qualifications applied for entrance to a senior college; the remainder who were qualified presumably entered a 2-year community college liberal arts program leading to poten-

tial transfer to a senior college thereafter. That is, 27.4 minus 14.7 is very nearly equal to 55.2 minus 41.8. In Class II, the discrepancy between those qualified for senior college and those entering one is narrower. In both classes, I and II, financial assistance (through Prong I funds) was available to community college, but not to senior college, students (stipends, waiver of fees, free books), probably explaining the community college entrance of many graduates qualified for senior college. In Class III, the joint effect of the Open Admissions policy and the extending of financial assistance to senior college students is evident: although only 15.7 percent of Class III applicants to CUNY met the earlier GPA guideline requirements for senior college entrance, nearly half the CUNY applicants (49.3 percent) applied to a senior college. The entries in the "Total" columns at the right in Table 35 should not be taken to show a close match between requirements and actual outcomes; they reflect the balancing of Class I and II data in one direction with Class III data in the other direction.

There are two consequential inferences to be drawn from the data of Table 35. First, with substantial numbers of Class III graduates applying to college programs leading or potentially leading to a senior college education and degree--but whose high school academic performance falls below that earlier judged necessary for success in a senior college liberal arts program--it is apparent that the CDD Program has motivated many of its graduates to strive for a full-scale college education. The second inference bears on the future of the CDD Program. Under Open Admissions it may be that numbers of CDD students would have entered college had they been in an ordinary nonCDD high school program. The justification for a CDD Program would then depend on whether Program graduates enter college and perform academically in college at levels above those of comparable nonCDD students.

In any event, since the college data thus far reported represent anticipations rather than actual college enrollments, data on actual college enrollments in Classes I and II are presented next.

Actual College Status of CDD I and II Graduates

To determine the actual status within a unit of The City University of graduates of CDD Classes I and II who had stated their intent to enroll, a list of purported enrollees in his institution was sent to the College

Discovery Coordinator in each of the units of The City University, with the request that the status of each person listed be indicated as of June 1970. As of that time, CDD I graduates (of 1968) could potentially have completed up to two years of college education; CDD II graduates (of 1969), up to one year of college education. The college status of these graduates is displayed in Table 36. In it, the frequencies (of 268 and 199) are below those that underlie the percentages of Table 32 for CDD I and II graduates intending to enroll in a unit of The City University (299 and 211) because of differences in the raw records data underlying the two tables. In any event, the "Miscellaneous" category in Table 36 covers those labeled by the College Coordinators as "dismissed, discharged, referred," a category that should perhaps be considered as having withdrawn from college.

Table 36

City University Status of CDD I and II Graduates One and Two Year(s) After High School Graduation[a]

(In Percentages)

Status	CDD I				CDD II			
	SC	CC	UC	Total	SC	CC	UC	Total
Active or Graduated	68.3	51.2	25.0	51.9	86.1	6[illegible].0	0.0	68.9
Transferred or Withdrew	14.7	16.4	0.0	14.9	9.1	2.3	16.7	3.5
Miscellaneous[b]	2.4	8.2	20.0	5.6	0.0	8.3	0.0	8.0
Did not register	12.2	17.9	50.0	19.3	4.5	13.4	16.7	12.5
No information	2.4	6.3	5.0	8.2	0.0	7.0	66.7	7.0
Total	100.0	100.0	100.0	99.9	100.0	100.0	100.1	99.9
Number	41	207	20	268	22	171	6	199

[a]SC = 4-year senior college, CC = 2-year community college (transfer and career), UC = Urban Skills Center.

[b]Includes those described as "dismissed, discharged, referred."

The percentages of "Active or Graduated" students shown in the first row of Table 36 are probably underestimates--by an unknown amount--of the

true figures. This is, according to the College Coordinators, partly because some students temporarily withdraw and then reapply for admission and partly because of possible transferees to other units of the University whose actual transfer could not be confirmed by the Coordinator in the student's original University unit. Taking the data of Table 36 at face value, it appears that in Class I, about two-thirds of senior college enrollees maintained their college enrollment over the 2-year period since high school graduation. In Class II, almost seven-eighths of senior college students and nearly seven-tenths of community college students had maintained their college enrollment during the one year since their high school graduation. The numbers of Urban Center students are so small, and the discrepancy between a college and an Urban Center curriculum is so large, that the status of those students is of little interest in view of the dominating objectives of the CDD Program.

Combining the data of Table 27 (p. 45) and that of Table 36, of the 550 initial high school enrollees in Class I, it may be conservatively estimated that 134 of them (24.4 percent) have completed, to date, up to two years of college education in The City University. In Class II, 127 of the original 523 enrollees (24.2 percent) have completed, to date, up to one year of a college education in The City University. These percentages are probably underestimates, for the reasons given immediately following Table 36, and they do not include SUNY and private-college enrollees. If one may assume that all 70 of these latter potential enrollees of Class I in colleges other than The City University did in fact enroll and, in turn, complete two full years to date of a 4-year program, then 37.1 percent (204/550) or approximately three-eighths of Class I's 10th-year entrants into the CDD Program have so far met the Program's objective of college attendance and success. The parallel percentage for Class II is 40.9 percent (87 SUNY and private college enrollees plus 127 CUNY enrollees among 523 initial Program entrants), or approximately two-fifths, who have so far met the Program objective of college attendance and success. Given the uncertainty about the actual status of City University transferees and temporary dropouts and about the actual status of SUNY and private college presumed entrants, all things considered it may be that about one-fourth to two-fifths of initial CDD enrollees in CDD Classes I and II have been meeting the Program objective of actual college en-

trance and maintenance of college status in an academic program for one to two years so far. That estimate is based entirely on CDD graduates. Nothing is known about the high school completion rates or college application rates or attendance rates of CDD Program leavers who may have completed their high school education elsewhere. Urban Center enrollees are excluded from consideration for the reasons given earlier.

The fluidity of City University entrance standards makes a summary inference rather chancy. That risk recognized, in relation to typical college entry and retention rates among disadvantaged students, an assumed college entry rate of up to about 40 percent among CDD enrollees is high indeed. Under ordinary circumstances a college entrance and holding rate of 40 percent is not remotely approached by disadvantaged high school students. In relation to the Program objective of <u>all</u> CDD entrants into college, success must be adjudged as moderate.

Chapter IV

QUESTIONNAIRE AND INTERVIEW ASSESSMENT OF PROGRAM FEATURES

The distinguishing features of the CDD Program were detailed earlier as: small classes, extra guidance services, double periods in selected subjects, tutoring services, and curriculum enrichment (in school via novel or additional instructional materials and techniques, and out of school via field trips). Since most CDD teachers are volunteers, the special interest of teachers should also be considered a distinguishing characteristic.

These Program characteristics were examined, variously, via questionnaire and interview of Program personnel at the Board of Education, at CUNY, and in the five Centers. Also solicited were the judgments and opinions of school administrators, CDD students and graduates, Program dropouts, and parents. In addition, to identify what if any instructional features distinguished CDD from nonCDD teaching, direct observation of the instruction of CDD teachers in CDD and nonCDD classes was carried out.

Reactions to the value of the various Program characteristics are treated in the present chapter. Problems of Program management--of responsibility for implementing, monitoring, and assessing the Program and its operation--are dealt with in the next chapter. To provide a basis for interpreting the findings on the value of the Program characteristics, some descriptive details are given first.

Descriptive Details on Selected Program Features

In important respects the CDD Program is not one that operated in identical fashion in each of the five Centers or throughout the 5-year period of the Program's existence to date or at each of the three senior high school grade levels. Differences among Centers in the entry status of students are manifest in the reports of the Project Coordinator (Nos. 21, 22, 23, 24) and in the longitudinal studies prepared by the office of the Program Director (Nos. 7, 8, 15, 26). These are differences that arose, in part, because of variations in the bases for selection; the judgments of Center counselors sometimes superseded the originally established criteria. Differences among Centers also existed with respect to physical facilities in the host school, in the attitudes of nonCDD

persons in the host schools toward the CDD Program and students, and in the extent to which the concept of "a school within a school" was maintainable. With respect to these and other features discussed in turn below, the CDD Program is best considered not as a single one, but as five programs whose goals were shared but whose conditions and modes of implementation varied.

Class Size. Examination of class registers showed that except in one Center, in which there was an increase in class size, it was generally possible to maintain class registers at 15-20 students in the academic subjects by assigning more teachers to the Program as it grew.

Double Periods. Programming of CDD classes varied from Center to Center and from year to year. Classes in academic subjects were sometimes "blocked" (i.e., for CDD students only), sometimes not. If blocked, the practices with respect to double periods varied. In some Centers there were double periods in English and Mathematics in the tenth grade; in other Centers, in all grades. In some Centers, foreign languages and science were scheduled as double periods in the tenth year only; in other Centers, in later years. Social studies was sometimes given as a blocked class in the eleventh year, sometimes not. In the various Centers, changes in double-period scheduling were made on the basis of experience with their efficacy. In fact, some Center personnel (and CDD students) questioned the value of the double period; it was sometimes used for activities other than formal instruction: e.g., tutoring, individual study and homework, guidance activities. One Center Coordinator suggested the possibility of discontinuing blocked classes and double periods after the tenth year. If so, while tutoring and guidance services could be continued through graduation, teaching would no longer be under CDD control after the tenth year.

Teachers. The CDD teachers of the first years of the Program were attracted by its novelty and challenge and, with few exceptions, seemed to generate enthusiasm and support for the Program. A number of factors have operated to reduce the initial enthusiasm. In one school, CDD teachers had a common lunch period and held monthly luncheon conferences. In other schools, it was not possible for CDD teachers to meet as a group during the day. Scheduling to permit a common free period for CDD teachers was recommended by C[illegible] staffs. The most cogent factor was teacher turn-

over. As the proportion of CDD students from minority groups increased over the years, teachers tended to leave the host schools, especially those located in disadvantaged neighborhoods. Coordinators reported that it has become increasingly difficult to find mature and experienced teachers for these schools and for the CDD Program in these schools. Teachers also complained of being given no program allowance for time spent at special meetings and in preparing special instructional materials.

Cultural Activities. Information on cultural activities was drawn from CDD reports and from interviews with Center Coordinators. Each Center is responsible for its own activities. In one Center, student representatives participate in selecting cultural activities. These have consisted of visits to museums, concerts, ballets, plays, movies, colleges, and the like. The number of annual events per Center has varied between 5 and 22 and has increased in some Centers and decreased in others since the Program's first year. Dramatic presentations and movies were most frequent; concerts and museum visits were common; visits to campuses (Queens College, Stony Brook, Brooklyn College, Bronx Community College) were less common than might have been expected. Participation in any given event was sometimes by students in all grades, at other times for students in one grade or one subject area. These events are always scheduled after school or on weekends or during examination week, not during school hours on regular school days.

During the first two years, students paid for the costs of cultural activities from the stipends they received. Upon discontinuation of special stipend funding in 1967, costs were covered by Title I funding. Sometimes free tickets (e.g., to Young People's Concerts) were obtained by the Program Director. One Center Coordinator reported difficulty in getting students to participate on a voluntary basis. Making attendance compulsory remedied the situation and led to more positive attitudes as students' awareness of the attractiveness of the activities grew.

The treatment of cultural activities in CDD reports is rather informal and does not provide a basis for assessing their value. Some information was provided by questionnaire and interview responses (see below).

Guidance Services. With the doubling of CDD registrants in the second year of Program operation, the number of guidance counselors in each

Center was increased from one to two. Center personnel recommended that a third counselor be provided at each Center, so that one counselor could follow a class through its three years of senior high school. Although provision was made in the 1969-70 school year for two family assistants at each Center (mainly for home visits to potential dropouts), full staffing of that position during 1969-70 was not accomplished. Details of guidance activities are given later in this chapter (pp. 88-89).

Physical Facilities. The concept of "a school within a school" was variously maintained, partly because the extent to which optimal physical and administrative facilities could be furnished varied and partly because moving CDD students into the mainstream of the school as they progressed through the school years was deliberately intended. Inadequate office space, guidance facilities, storage facilities, and areas for tutoring and for student and faculty conferences were mentioned by Center staffs. However, these limitations reflect schoolwide overcrowding, not by any means discrimination and nonsupport by school administrators.

Curriculum Consultants and College Coordinators. The number and functions of these persons were described earlier (p. 6). Assessment of their activities is given later (pp. 86-88).

Tutoring Services. An in-depth analysis of documentary materials on tutoring is provided in a self-contained report that follows the present one. Interview and questionnaire data on tutoring are given below (pp. 77-80).

Data Collection Procedures

Interviews were conducted with each of the principals of the five host schools, with Center Coordinators and guidance counselors, with the Project Coordinator at the Board of Education, with the Program Director at CUNY, and with other persons, as follows: 48 CDD students, 8 CDD dropouts, 11 CDD graduates now in college, 3 CDD graduates not in college, 6 parents of dropouts, 4 parents of present CDD students, 27 CDD teachers, and 33 tutors. In addition, questionnaires were addressed to CDD students, to CDD graduates now in college and to College Coordinators. Assessment of the features of Program operation is based on questionnaire and interview data and on earlier CDD reports. Instructional behavior was examined

via direct observation of CDD and nonCDD classes.[17]

Findings

Discussion of relations with the host schools provides general background for an overall questionnaire assessment of Program features by students, followed by interview, observation, and questionnaire data on the various Program characteristics and types of Program personnel. The various sources and forms of data sometimes make it convenient to present findings applicable to the various types of CDD personnel, at other times according to the source of the data.

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[17] Interviews with staff members (the Project Coordinator at the Board of Education, the Program Director at CUNY, Center staffs, and the principals of the host schools) were conducted by Professor Edward Frankel (Lehman College) and Professor Sam Duker (Brooklyn College). Mrs. Kay Murray, Research Associate in the Bureau of Educational Research of the New York City Board of Education, interviewed Center guidance counselors on guidance matters and Center Coordinators on the activities of College Curriculum and Guidance Consultants.

Questionnaire inquiries (of CDD students and graduates and of College Coordinators) were conducted by Professor Frankel. Interviews with nonstaff persons (CDD students, dropouts, graduates, tutors, parents) were supervised by Professor Duker and carried out with the assistance of Professors Walter Murray, Robert Shadick, Charles Long, and Sterling Rogers--all of Brooklyn College. These interviewers of nonstaff persons were thoroughly briefed on the CDD Program and on the purposes of the interviews, which were deliberately informal and unstructured, and were furnished with an interview guide (Appendix, pp. 123-128). Student and tutor interviewees were not selected at random; time constraints made it necessary to ask Center Coordinators to select interviewees and to schedule interviews. However, there is no evidence of bias in their selection. Furthermore, assurances of confidentiality seem to have been accepted by interviewees, and their responses were judged by interviewers to be frank and unreserved. A telephone campaign to reach CDD dropouts, graduates, and parents had limited success. Mobility and unwillingness to be interviewed in their homes led to substantial attrition among potential interviewees, resulting in brief and not very informative interviews with a very small number of dropouts, graduates, and parents.

Direct observation of classroom instruction was scheduled by Mrs. Kay Murray and carried out by her and the four Brooklyn College interviewers named above--under the direction of Professor Duker, who prepared the observation form (see pp. 132-133).

Relations with the Host Schools

Initially, there was a "wait and see" attitude on the part of school administrators and other nonCDD personnel in the host schools. At the start, there was resentment by some nonCDD teachers (and students) of the special status of CDD students (small classes, stipends, tutors). According to Center Coordinators, the early neutral or questioning attitudes quickly developed into ones of support and approval for the Program, as manifested, for example, by particular efforts to expedite the requirements of the Program (programming of CDD students and teachers, scheduling meetings and special CDD activities, requisitioning of supplies). Physical space was made available to the extent possible in the overcrowded host schools: in one Center, a separate trailer for CDD offices. Concerning student attitudes (of CDD and nonCDD students toward each other), Center Coordinators felt that there was quick acceptability. CDD students became part of the mainstream in their host schools, participating in schoolwide activities to the extent that the Program became more "a part of the school" than "a school within a school." Student interview data (see below) is less uniformly positive in this regard. There existed some misunderstanding and resentment among some students. According to some Center Coordinators, CDD membership is a status symbol; some CDD students complained, however, that CDD students are looked down on by nonCDD students. The dominating impression, nonetheless, is one of fierce loyalty to the Program by CDD students and of consuming interest in and dedication to the Program by Center personnel. Increasing support and approval for the Program by school administrators is evident from the comments of school principals during interview, as well as from the judgments of CDD personnel.

Student and Graduate Ratings of Program Features

By a variety of essentially random procedures, a 10-item questionnaire (see pp. 118-120) was distributed to about 150 CDD students (at least 5 boys and 5 girls at each of the three grade levels in each of the five Centers). Anonymous responses were received from 120 students (80 percent): ranging between 3 from Center II and 23-33 from each of the other four Centers, approximately equally divided between boys and

girls.

Students were first asked: "What part of the CDD Program helped you in school during each of the following years?" They were instructed to rank the two most helpful items from a list provided, although some students added a third ranking. It was originally intended to provide a retrospective view of the value of Program features at each stage of the Program; however, no clear differences emerged. Accordingly, the rank order of features presented in Table 37 is given for each of the three high school years individually, as judged by CDD students in that year, and for all years together. The mean values for all years are based on weights of 1, 2, and 3 for respondents' first, second, and third choices; the lower the mean, the more helpful the Program feature.

Table 37

Rank Order of Helpfulness to Students of Program Features

Feature	Rank Order				Mean
	10th	11th	12th	Total	
Small classes	1	1	2	1	1.38
Guidance services	4	2	1	2	1.39
Tutoring	2	7	5	3	1.56
Double periods	3	3	8	4	1.59
Miscellany*	6	8	3	5	1.61
Teachers	5	6	7	6	1.64
Classmates	8	4	4	7	1.65
Subjects	7	5	6	8	1.71
No. of Respondents	39	46	35	120	

*Field trips, cultural activities and other occasional characteristics.

The Program features in Table 37 are listed in rank order of helpfulness. In the view of students, the preeminence of small classes and guidance services is evident in each year of the Program. The means are necessarily influenced by the unequal number of respondents from each grade; the 46 11th-graders have more influence on the overall mean than the smaller number of 10th- and 12th-grade respondents. Nonetheless, the differ-

ences among the means reveal several near-ties in rank, as well as wider differences in the helpfulness of Program features. Among the various grades, tutoring has varying status, and double periods have low value for seniors, probably because seniors are no longer or rarely in double-period classes. Interpreting other intergrade differences is too speculative to be justified.

The least valuable Program features, as identified by responses to the second questionnaire item, were uniform across the three grades and were found to be: least valuable, tutoring; next, classmates; third, double periods.

Respondents were next asked (Item 3) how well they performed academically in relation to their CDD and nonCDD classmates. With minor and occasional shifts in rank order at the extreme (above or below average) judgments from one grade to another, across grades an essentially normal distribution of judgments resulted. One person considered his performance to be very poor. The remaining 119 persons were distributed as follows (in percentages):

Very good	9%
Above average	26%
Average	52%
Below average	12%

With values of 5-4-3-2-1 assigned, respectively, to very good, above average, average, below average, and very poor, the mean values for the respondents in the various grades were:

10th Grade	3.56
11th Grade	3.13
12th Grade	3.09
All Grades	3.30

Although the decline in self-judgments of academic performance with progress through the senior high school years parallels the measured decrement in grade point average (Table 24, p. 40)--students are apparently not given to self-delusion--their self-judgments tend to reflect the good motivation toward school fostered by the Program, as well as its instructional strengths.

The effect of nonresponse (20 percent) cannot be precisely estimated, but it must be supposed that nonrespondents are the weaker students academically, or at least those with poorer attitudes. Thus, as a measure

of judgments by all CDD students, the obtained values are probably somewhat inflated. That hypothesis applies, as well, to responses to the fourth question: "How well did you do in high school as compared to what you expected?" Across all three grades, about one-third judged that they did "a little better" than expected; the remainder were about equally divided among those who felt that their academic performance was "as expected," "much better" or worse than expected ("somewhat poorer" and "much poorer"). With values of 5-4-3-2-1 assigned, respectively, (to much better, a little better, as expected, somewhat poorer, much poorer), the mean values for the various grades were:

10th Grade	3.74
11th Grade	3.37
12th Grade	3.46
All Grades	3.47

These findings generally parallel those for the preceding question (about performance in relation to classmates) and permit similar inferences. The increase from 11th- to 12th-grade respondents (from 3.37 to 3.46) possibly reflects the peak of Program leavers in the 11th grade; by the senior year many of the poorest students had dropped out of the Program.

The perceived advantages of CDD over nonCDD students, as tapped in the next question, were, in rank order: small classes, guidance, tutors, and double periods.

Considered as a whole, the Program was judged to be "excellent" by 40 percent of respondents, 54 percent thought it was "good," 5 percent "fair," and 1 respondent thought it "poor." Judgment of the value of the Program was highest among 10th graders, lowest among 12th graders. Here, as in many life phenomena, time lends disenchantment.

More than 90 percent of respondents said they would recommend the Program to their friends. Nearly all (94 percent) said they planned to attend college. A unit of CUNY was chosen by 41 percent of respondents, other colleges by 30 percent of respondents; the 28 students who were "not sure" were mostly 10th graders.

Perhaps the most provocative findings of the questionnaire are those that relate to modification of the self-concepts of participants. For each of the 10 items listed in Table 38, they were asked: "To what extent has the Program changed your attitudes?" Values of 5-4-3-2-1 were

assigned, respectively, to much better, somewhat better, about the same, somewhat worse, much worse. Table 38 displays the mean value for each of the ten self-concepts together with the rank order of items judged to be "much better," . . . "much worse."

Table 38

Change in Student Self-Concepts

(Mean change and rank of concepts according to extent of change)

Concept	Rank Order*					N	Mean Change
	MB	SB	AS	SW	MW		
Think clearly	6	2	8	8		113	4.32
Work on my own	3	5	10	8		109	4.16
Express myself in writing	2	3	9	8	1	114	4.07
Do college work	5	4	5	4½		114	4.02
Speak before a group	7	6	6	4½		108	3.96
Get along with others	4	9	3	10		107	3.93
Do well in high school	8	1	7	1		118	3.92
Self-confidence	1	7	4	4½	2½	117	3.65
My appearance	9	10	1	4½		108	3.65
Be a leader	10	8	2	2	2½	108	3.59
Grand mean							3.94
Number of responses	362	353	377	20	4	1116	

*MB = Much better, SB = Somewhat better, AS = About the same, SW = Somewhat worse, MW = Much worse; Scale values: MB = 5, . . . MW = 1.

Table 38 shows that "self-confidence" received more "much better" designations than any of the other concepts; the "somewhat better" designation was applied more often to "Do well in high school" than to the other concepts. The effect of the weights for the five steps on the scale for extent of change is revealed by the means in the extreme right-hand column of the table, paralleled by the listing of the self-concepts in rank order of the means. The grand mean (of 3.94) places general improvement across the 10 self-concepts as "somewhat better." Mainly, the most improvement applies to the more important variables: clear thinking, independent work, written expression, and confidence in the ability to do

college work.

Recommendations for improvement of the Program offered by the 120 student respondents were, in order of frequency of mention: more tutors, better tutors, restoring of stipend for students, better selection of students, more guidance, expanding the Program for more students, and more cultural experiences. The status of tutoring in relation to the earlier questionnaire responses on Program features suggests that students approve of tutoring in principle, that some have been skillfully tutored, but that most found the tutoring they did receive to leave something to be desired. These inferences are reinforced by the judgments of CDD personnel (see below) and by the analyses of tutoring records and questionnaire responses in the separate tutoring report that follows this one.

Judgments of CDD Graduates Now in College. To assess the judgments of CDD graduates now attending a unit of CUNY, questionnaires were distributed (a) by Center Coordinators to CDD graduates working at the Centers as tutors and (b) by the College Coordinator of Bronx Community College, who mailed copies of the questionnaire to all CDD graduates attending that college. Students were provided with stamped envelopes preaddressed to the investigator. Of the 48 questionnaires distributed, 17 (35.4 percent) were returned (8 males and 9 females). Respondents represented all five CDD Centers, although more than half were from the Bronx Center. Mean high school grade point average for the 17 respondents was 77.8, including five respondents with GPAs above 80. Three respondents were attending a senior college of CUNY; the remainder were pursuing a liberal arts program in a community college of CUNY. The modest rate of response to the questionnaire and its mode of distribution precludes the assumption that the respondents are representative of all CDD graduates now in college. Findings should therefore be considered to be suggestive rather than definitive.

Guidance and small classes were judged most valuable, and double periods least valuable. As college preparation, guidance and classmates were most helpful, but there was no clear agreement on what was least helpful

All the Program features were considered to provide advantages over

nonCDD students, particularly the individual attention permitted by small classes. In general, they felt better prepared than nonCDD students.

Three had reservations about the Program; the remaining 14 respondents said they would recommend the Program to their friends. Overall ratings of the Program were equally divided between "excellent" and "good."

Regarding self-image, respondents reported a general improvement in their attitude toward school and in their intellectual and social abilities.

Their recommendations for improving the Program included: more guidance, better teachers, more information about college while in high school, more faculty participation, improved attitudes and expertise among tutors, small classes throughout the Program, more judicious use of double periods, and expansion of the Program to include more students.

CDD Graduate Interviews. Separate interview data were also secured from 11 other CDD graduates now in college, 8 of whom were Center tutors. Four were attending a senior college, 7 a community college. Two were finding college easy, 8 difficult, and 1 did not respond.

With the number of responses shown in parentheses,[18] the most beneficial aspects of the CDD Program were judged to be: small classes (5), opportunity for an education leading to college (4), double periods (3), guidance counselors (3), tutoring (2), and special attention to individuals (1). Interviewees disliked: double periods (4), long time spent travelling to and from school (3), separation from the mainstream of the host school (2). One respondent liked everything and disliked nothing, and another respondent had nothing to say. To the question, "If you could make one change in the Program to make it better, what would it be?" responses were: Don't know, never thought about it (5), expand the Program for more students (3), more space (3), better travel arrangements (1). Three persons felt rejected by nonCDD students and teachers, four felt accepted, and six said that things were different in the senior year.

Student and Staff Reactions and Understandings

The information presented here is based on interviews, as described on

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[18] On some questions, total responses exceed 11 because of multiple answers.

page 64, particularly in the second paragraph of Footnote 17 (p. 65). To preserve the flavor of interviewee responses, they are mostly quoted verbatim and occasionally paraphrased; the type of interviewee is shown in parentheses following the comment. These comments should not be taken as rigorous criteria of Program merit; instead, they convey in a general way interviewees' judgments, information, and misinformation about the Program. The comments are organized topically, and the inferences to be drawn from the several hundred comments listed below are summarized on pages 84-85.

Recruitment and Selection Procedures. Approval and correct understanding of philosophies and procedures are illustrated by the following comments:

> Those who have potential and need a push should be selected (tutor). CDD selects to develop potential and help solve personal problems (tutor).
>
> Those of poor socioeconomic standing with potential are chosen (student).
>
> Selection processes have improved (graduate, tutor, teacher).
>
> In general, the right students are selected (8 teachers, 16 students, 3 Center Coordinators).
>
> Students are selected because they have the potential to advance if they are given assistance (student).
>
> Program is for those who can learn but don't do well in school (student).
>
> (Correct understanding of selection procedures was revealed by 7 teachers.)

Questionable or incomplete or incorrect understandings are revealed by:

> CDD is for poor scholarship--not all have potential (tutor).
>
> Junior high school teacher selects those who have low averages but who can succeed with a lettle help (tutor).
>
> Students are selected from poor areas (tutor).
>
> CDD was designed to help academically poor students, but actually CDD students are bright (student).
>
> Don't understand how students are chosen (1 teacher and 5 students).
>
> Students selected are not all culturally deprived (teacher).
>
> Some students are selected because of their problems in the junior high school and are selected to appease them [i.e., the students] (teacher).
>
> Students are selected on the basis of junior high school grades (teachers).

Students are selected because they need individual attention (teacher).

Students are selected because school people think they can do the work (student).

Most CDD students are admitted because they need help (student).

High grades were necessary (3 students).

Criticism is evident in:

Some of those selected do not have potential but nevertheless are encouraged to plan on going to college (student).

Many who were selected were inferior academically to those who were not chosen (student).

CDD selects students who would have made it anyway, thus taking space that could have been used for more deserving students (10 students).

Students should be screened better. Several, who because of poor scholarship should not have been admitted, were selected (teacher).

Lots of students don't hear about CDD (student).

Some with wrong attitudes or poor grades should not have been admitted (2 students).

Some others should have applied for admission that didn't do so (Center Coordinator).

Suggestions for improvement are contained in:

Some publicity should be given to the Program so that eligible students will hear about it (student).

Potentials should be screened by interviewing the parents. There must be a desire to learn in addition to underachievement (tutor).

Better screening through tests is needed (tutor).

Emotional qualities should be considered along with intellectual qualities (tutor).

The Program Director at CUNY (Dr. Lawrence Brody) stated that:

After the CUNY CDD Office has sorted the application materials into three piles: [(a) acceptable--ones that show a clear gap between potential and achievement, economic eligibility, and are accompanied by written recommendations by the junior high school principal and counselor; (b) doubtful, and (c) not acceptable] the personnel from the school Centers come in. Each high school accepts approximately 100 of these; 75 come in the order of our selected priority of the greatest gap between potential and achievement. The other 25 are selected as a compromise and as the result of arguments.

<u>The "School within a School" Concept</u>. Some generally descriptive comments are:

Most friends of CDD students are in the CDD Program (student).

This is a good feature, but CDD students take advantage of it by cutting classes (student).

Separation is necessary in order to give special treatment to the CDD student (tutor).

CDD is separate and students feel this, although one student is head of a student organization. They feel separate because they are organized as such, and the travel through a great distance to attend school adds to this feeling. They stick together because they are together in subject classes, always programmed this way. Seniors are exceptions because they take less CDD classes. NonCDD students do resent CDD students because they appear "wild," the "Oh, them" attitude. CDD students feel left out because of the programmed structure of the Program. CDD students have feelings of insecurity (teacher).

No stigma is attached to the CDD students (tutor).

CDD and other students mix (tutor).

School within a school idea is good (6 students).

Most other students don't know about CDD (4 students).

Teachers don't know how to interpret the program to other students (Center Coordinator).

(Full-hearted approval of the idea was expressed by 10 teachers, 5 tutors, 8 students).

CDD students develop feelings of superiority (2 teachers).

Didn't know about CDD when he was in the same school a few years ago (tutor).

Advantages of the school within a school concept are expressed by:

CDD student develops sense of identity--he is known (Center Coordinator).

Content is adapted to CDD student (Center Coordinator).

Plan is supportive of individuals in CDD (2 teachers).

Plan builds group solidarity (2 teachers).

CDD students support each other (teacher).

Partial isolation has advantages (3 teachers).

CDD students develop pride in their unit (tutor).

Necessary because CDD students can and must concentrate on the program, its goals, and means of achieving (tutor).

Everybody knows everyone else in CDD program (tutor).

Unity of CDD students is good (Speaker unidentified).

Good idea--makes nonCDD students work harder because they see CDD students succeeding (student).

CDD students learn from each other (Speaker unidentified).

Disadvantages are expressed by:

CDD students should mix more (teacher).

Partial isolation is disadvantageous (teacher).

Didn't like it when I was a student in program (tutor).

CDD students need wider contacts with mainstream students (student).

Unhealthy situation--CDD students feel different because they are isolated (teacher).

Feature is bad--CDD students meet only other CDD students (speaker unidentified).

Feelings of CDD students toward mainstream personnel are conveyed by:

CDD students do not resent mainstream students (student).

CDD students are isolated (teacher); they have feelings of separateness (teacher).

Feelings of host school persons toward CDD persons are expressed by:

Rest of school looks down on CDD (tutor).

Special treatment of CDD students resented by other students (4 students, tutor).

CDD students not resented by other students (4 tutors, 7 students).

Other teachers resent extra services available to CDD but don't avail themselves of things that are available to them (Center Coordinator).

CDD students feel the resentment of nonCDD teachers (Center Coordinator).

CDD students are envied by other students (2 students).

There was more resentment when stipend was paid to CDD students (tutor).

No resentment either way between CDD and other students (tutor).

CDD students resented because of stipend and tutoring (tutor).

NonCDD students feel CDD students should not be in school--therefore resent them (teacher).

No resentment against CDD but nonCDD students feel that CDD students are spoiled and given extra privileges (teacher).

Some nonCDD teachers are hostile toward any involvement in this type of program--feel resentment because extra work by enthusiastic CDD teachers reflects on their own capability as teachers (teacher).

Regular teachers look down on CDD students; think they are given too many privileges (student).

Some teachers in mainstream feel CDD students don't deserve their program (teacher).

Mainstream students resent all programs giving financial aid to students (student, tutor).

NonCDD students resent smartness of CDD students (student).

Concerning integration of CDD students into the mainstream:

There is general acceptance of CDD students by the remainder of the school (Center Coordinator).

CDD students are elected to student body offices (student).

CDD students become integrated with the rest of school (5 students).

CDD students are not resented or isolated by other students (5 students, 6 tutors, 2 teachers).

CDD students mingle and are part of the school (2 teachers).

CDD students mix with other students and take part in extra-curricular activities (2 teachers, 3 students, 2 tutors).

CDD students blend in with mainstream students (student).

Tutoring. Approving statements are:

CDD students are shy and want answers from someone near their own age (tutor).

Tutoring raises grades (3 students).

By and large the tutoring program is good (Center Coordinator).

Have used tutoring to my advantage (student).

(General approval of the tutoring program was expressed by 6 teachers and 21 students).

Disapproval is evidenced in:

The tutorial program remains one of the most unsatisfactory facets of the Program. Many tutors fail to assume their responsibilities by not trying to work with their tutees (College Coordinator).

Needs improvement (teacher).

Not conducted properly, although idea is good (teacher, 4 students).

Students and tutors fail to keep appointments (2 tutors).

Some CDD students fail to recognize advantages of tutoring (2 tutors).

Many students attend tutoring sessions irregularly (tutor).

Students do not take initiative in asking for tutoring; they wait until they are in trouble (Center Coordinator).

Tutors are OK. It is the students who are at fault (Center Coordinator).

Students avoid tutoring (3 teachers).

Students and tutors both have poor attendance at tutoring sessions (3 teachers).

Student is the link between the teacher and the tutor (teacher).

Attendance of students is the problem (5 tutors).

Dislike extra time at school (student).

Student assigned to 7:30 A.M. tutoring session says he can't make it that early (student).

Would like daily tutoring (student).

Tutor attendance not dependable, especially first and last periods of the day (3 students).

No longer need tutoring (student).

Tutoring forces the student to work (tutor).

About tutors and the tutoring process:

Tutors are very competent (2 students).

Tutors are not competent (2 students).

Student has good relations with tutor (student).

Informal tutoring sessions are beneficial (tutor).

Tutors are great--they have been through the mill and are relaxed when working with students (student).

Sometimes discuss problems such as drugs, racial discrimination, and sex (tutor).

Tutors have scheduling problems (Center Coordinator).

Tutors sometimes work in Center office (Center Coordinator).

Some tutors do poorly (3 teachers).

Tutors and students talk about college (2 tutors).

Tutors and students talk about personal life of tutor (2 tutors).

Not all tutors are competent (student).

Procedure helps tutor because it helps him become a leader (student).

Motivation of the tutor is a problem (Center Coordinator).

Tutors report so late in the fall term that by that time the Center is in desperate need of their services (Center Coordinator).

Some tutors do things other than tutoring during tutoring periods (Center Coordinator).

Some tutors fool around (Center Coordinator).

Some tutors are hard workers (Center Coordinator).

Some tutors are irresponsible (Center Coordinator).

Tutors are helpful (student).

Had two tutors that were very good (student).

Tutors often are not used after reporting to school (2 tutors).

Tutoring adds personal touch (tutor).

Tutoring forces the student to work (tutor).

Tutors talk to students about general topics such as college, politics, etc. (2 tutors).

Tutoring is good when graduates of CDD are used as tutors (5 students).

Difficulties and problems are expressed by:

No tutor is available for the subject I need (student).

Tutoring is useful in winter but not when weather is good, as students won't attend (tutor).

Center does not know about what tutors will be needed until after school starts in the fall (Center Coordinator).

Mechanics of time and schedule are part of the problem (Center Coordinator).

Space is problem (4 tutors, 6 students).

Better screening of tutors is needed (Center Coordinator).

Not enough tutors (student).

Improvements are suggested in:

There is need for more experienced tutors but then they would be better than the teachers, who do not see the problems of the students and are hung up on prejudices, for example long hair (student).

Tutoring should be compulsory (2 tutors).

Better training of tutors is necessary (Center Coordinator).

There should be more and closer contact between the teachers and the tutors (4 teachers, 9 tutors, 3 students).

Tutors should not tutor students during the time that the student is scheduled to be in class (teacher).

Colleges should help in screening tutors (speaker unidentified).

One of the authors of this report who confined his interviewing to staff persons found that every phase of the tutoring program was criticized: selection, orientation and training of tutors, lack of space for tutoring sessions, questionable academic competence and irresponsibility of some tutors, inadequate supervision and control of tutors. These findings differ markedly from tutors' own judgments of their activities, as given in the separate report on tutoring that follows this one. However, the questionnaire responses in that report arise from a 50 percent rate of questionnaire returns, so that the extent to which the self-reports by respondents are representative of all tutors is questionable. Also some of their responses perhaps should not be taken at face value.

Despite the preponderance of negative views by staff members, few suggested that tutoring be eliminated. They see its potential contribution to students and were especially pleased with those tutors who were former

CDD students, whom they judged to be the most conscientious and capable ones. Center staffs recommended:

1. More vigorous standards of academic competence of tutors
2. Interviews of all applicants by the Coordinator
3. Orientation training through the Office
4. Planned conferences in subject areas throughout the year led by college specialists
5. Regular meetings of tutors with Coordinators in Centers
6. Tutor coordinator at each Center
7. Greater control over tutors by the Center

Double Periods. Approval for and the benefits of double periods are expressed in:

(General approval was expressed by 8 teachers, 16 students, and 1 CDD graduate).

Remedial work is made possible (teacher).

More oral discussion (teacher).

Able to move more slowly with more detail (teacher).

More questions asked (teacher).

Allows time for working with troublesome aspects of subject (teacher).

Conducive to better pacing (teacher).

More content is included (student).

More in-depth work (teacher).

Review (2 students, 2 teachers).

Increases variety of methods and materials (student).

Student gets chance to express himself (Center Coordinator).

Teacher has more time to help student (Center Coordinator).

Pupils don't get turned off (Center Coordinator).

More personal (Center Coordinator).

Higher incidence of success results (Center Coordinator).

Teacher can loosen the reins (Center Coordinator).

Content is varied to student needs (Center Coordinator).

Innovation comes into play (Center Coordinator).

Allows for flexibility (Center Coordinator, 5 students).

Valuable for weak student--like a tutorial (Center Coordinator).

Learned more content (8 students).

More participation and more individual help (7 students).

Behavior of students is better (2 students).

Don't like it but it's good for me (student).

Can cover more work (teacher).

Improves class morale (teacher).

Helped create interest in creative writing (teacher).

Ideas can be developed better (teacher).

Can be more thorough (5 teachers, 5 students).

Changes student attitudes (teacher).

Teachers help you more (3 students).

Special needs of individuals can be met (teacher).

Learned more (student).

Criticism is reflected in:

Second period is a waste of time (4 students).

Students do work they should have done at home (teacher).

Harder to teach double period classes (teacher).

Boring (6 students).

Teacher taught less (2 students).

Not all students need double periods (student).

Double period should not be scheduled to include noon hour (teacher).

Students dislike it (3 teachers).

Boring but worthwhile (5 students).

Hard on children with emotional problems (teacher).

Content same as regular class (4 students).

Not necessary for good students (student).

Wasted time (2 students).

Prevents enrolment in elective courses (student).

Students get tired (student).

Results in having to take Regents in Senior, rather than in Junior, year (3 students).

Hard to pay attention that long (student).

No difference in content (tutor).

Too long (student).

Small Classes. It is the practically unanimous opinion of the persons interviewed that the small class concept is one of the best features of the CDD program and that it is in all ways a desirable goal. Therefore, only a few typical comments are given here. A thorough listing of

answers to questions about the merits of small class size would be repetitious and add little to the statement just made.

> Enables the teacher to check homework and to get the students involved. Actually in math classes the size of the classes in nonCDD is about the same (teacher).
>
> Individual attention is possible; in a small class everyone has to be on the ball (student).
>
> Most valuable part of program (student).
>
> One of best features (tutor).
>
> When classes get as small as five there is too much pressure (student).
>
> Good feature (10 students).
>
> Small classes are not small when they go over 20 as some CDD classes do (student).
>
> It is the observer's feeling that the effect of the CDD program is vitiated if, on the one hand, there is a double period but, at the same time, there are twice (23) as many students as a CDD class is supposed to have (classroom observer).

Teachers and Cultural Activities. No direct inquiries were made about cultural activities. Inquiries about teachers were dropped because students were reluctant to discuss their teachers during an in-school interview. Comments made in passing consisted of:

> The cultural activities are one of the best features of the program (many students).
>
> CDD teachers care about their students (11 students).
>
> CDD teachers have a better attitude than nonCDD teachers (4 students).
>
> There is need for a better orientation of teachers entering CDD (2 teachers).
>
> CDD teachers are not effective in teaching subject matter (tutor).
>
> CDD teachers are devoted and understanding (6 students).
>
> The teacher is the key to the success of the CDD program--must have empathy, talent and knack of relating to youngsters (Center Coordinator).
>
> CDD teachers must maintain standards but understand children (Center Coordinator).

Guidance Services. The activities of guidance counselor are so highly regarded that a handful of interview comments serves as evidence therefor.

> Helped me realize main goal is college--a big help (student).
>
> Guidance is better than in the mainstream (student).
>
> Speaks glowingly of counselor who is not the one to whom he is assigned but to whom he goes anyway (student).

Counselors try to maintain close contact with teachers (teacher).

Counselors know us personally (student).

In contrast to Junior High School Counselors, they are really "on the ball" (student).

Students regard counselors with awe and respect (Family Assistant).

Counselors sometimes interfere with discipline (teacher).

Services are in great demand (observer).

Guidance said to be especially strong and effective (interviewer).

Characterization of CDD Students. The positive statements were:

CDD students are highly motivated (teacher).

Students are a close-knit group (teacher).

CDD students are bright but often fear Regents even though they know the material (tutor).

CDD students are enthusiastic about the program (classroom observer).

I like the friendliness of CDD (2 students).

Many CDD students are not maladjusted (teacher).

Warm emotionally (teacher).

In some ways CDD students do better than nonCDD students (teacher).

Most that remain in the program succeed (student).

Negative qualities were expressed in:

Some students cut classes excessively on a habitual basis (teacher).

Do not do well on Regents (teacher).

Reading is poor (2 teachers).

Reading is poor probably due to poor teaching and poor student ability (teacher).

Nine students have been absent from their Spanish class all term (teacher).

Some have babies and some have alcoholic families (student).

Majority of CDD students are not interested in learning (tutor).

Not as motivated as students when I went to high school (tutor graduate of 4 yrs. ago).

CDD students only want the answers; they are not interested in why (tutor).

CDD students in general feel that they are getting something "free" and do not study hard enough (tutor).

Most CDD students don't want to learn--do not do homework and are absent when the weather is warm (tutor).

Some CDD students do not attend regularly (2 tutors).

Some CDD students are habitually late (student).

Most students dislike early session (student).

Students feel protected and thus do not produce (teacher).

CDD students are clique oriented (teacher).

Gnerally hostile to homework (English teacher).

I am not highly motivated. I could do the work if I felt like it (student).

CDD is too much work (student).

CDD students have more emotional problems than most; they may have difficult home situations which cause problems (2 teachers).

Many CDD students have no genuine desire to learn (tutor).

CDD students have an inferiority complex and need to be told that they can make it (tutor).

Neutral statements consisted of:

Need remedial work to prepare for courses like biology (teacher).

Some students are disadvantaged--they have economic and other problems (student).

CDD students come from lower socioeconomic but are not poor (student).

They c n verbalize but cannot write (student).

CDD students have more exposure to knowledge about things like girls, drinks, etc., than nonCDD students (student).

Shy (CDD graduate tutor).

Most have good potential but lack motivation (tutor).

Some students need to be pushed (student).

Summary. The barrage of directly quoted observations by students and staff about the various features of the Program attest to the variety of views, both positive and negative. One of the senior interviewers observed that staff persons tended to maximize the contributions of the Program and to attribute weaknesses to conditions and factors beyond their control, such as personnel turnover, overcrowding, bureaucracy and red tape, lack of communication, and the like. Nonetheless, when the value of the various Program features and operating characteristics are considered in relative fashion, it is clear that near unanimity exists in praising small classes and cultural activities. Guidance services are extremely well regarded. CDD teachers are generally, but not always, well thought of. Reactions to double periods and to the school-within-a-school concept were mixed. Tutoring is an extremely weak Program fea-

ture. Selection processes and, inferentially, the purposes of the Program, are not thoroughly understood by all staff members and certainly not by all students. Some suspect loopholes in applying the selection criteria. Reservations notwithstanding, practically every student and a majority of the teachers thought the CDD Program should be expanded.

Interviews with Dropouts and Their Parents

Of the 8 dropouts who were interviewed, 6 left in the sophomore year and 1 each in the junior and senior years. They gave as reasons for leaving the Program: poor grades (3), habitual truancy (3), drug addiction (2), family needed economic help (1), and didn't like the Program (1). Their status at the time of interview (June 1970) was: employed--as laborer, clerk, department store worker (4), seeking employment (2), not seeking employment (1), attending another high school (1). Seven of the eight claimed to have favorable attitudes toward the Program; 5 would enter the Program again if they had the chance, while 3 were not sure. On the other hand, 2 would drop out again, 2 would not, and 4 were not sure. What they liked about the Program was: teachers' interest (5), guidance counselors' interest (5), small classes (4), the school-within-a-school aspect (4), and tutors (3). They disliked: isolation from nonCDD students (3), tutoring (3), "could not get hold of a counselor" (3), having absences checked (1), and "nothing" (1).

Among parents of 6 dropouts who were interviewed, 1 approved their child's dropping out, 2 did not know how they felt, and 3 did not answer. Parental views of reasons for dropout were: wasn't doing well (3), didn't like school (2), narcotics (1), and needed to work as father was sick (1). Five of the six were vague, forgetful, or uncommunicative about whether they had been contacted by a guidance counselor or other school person; one claimed he had not been contacted. Four interviewees said they understood about the CDD Program, 1 said "no," and 1 did not answer. Two had learned about the CDD Program from their child, and two attended a school meeting. The highest grade in school earned by any of their children was: in college (1), college freshman (1), high school freshman (1), no answer (3).

Although the dropout and parent interviewees are few in number and the interviewing not deep, the responses may well typify the school leav-

er and his parents. They provide little insight into possible Program improvements and are more suggestive for the screening of applicants to the Program.

Interviews with Parents and Graduates Not in College

Of the three CDD graduates not in college who were interviewed, 1 said he lost interest because he was not accepted by the college of his choice; the second said he couldn't afford to attend college; and the third said he might go to college later. This latter person was, at the time of interview, looking for work. Of the various Program features, they liked the special attention given to CDD students, small classes, and friendships formed with other CDD students.

The four parents of present CDD students who were interviewed consisted of one couple and two other mothers. The couple seemed well briefed on the CDD Program; the 2 mothers knew little about the Program. One mother said her child was happy and seemed to be learning. Another mother said her child was old enough to be working. The remaining parents favored college attendance by their children.

Curriculum and College Curriculum Consultants

A unique feature of the CDD Program is the assignment of faculty members from four senior colleges of CUNY to serve as curriculum consultants in the CDD Centers. The equivalent of six full time college teaching positions was provided, one in each academic area (English, Mathematics, Foreign Languages, Science, Social Studies) and one in Counseling.

In addition to conducting workshops and providing enrichment materials, the consultants were charged with aiding teachers and chairman in the Centers to institute changes in curriculum content and materials. However, consultants serve advisory, not supervisory, functions.

A major obstacle has been the inability of the consultant to meet jointly with the chairmen and the CDD teachers in the Centers--because of teachers' programs. At the suggestion of the consultants, workshops and conferences were held to bring consultants and teachers together for joint curriculum planning. The Arden House Meeting in January 1966 (CDD Report No. 29), and the Lake Minnewaska Conference in November 1966 featured subject area workshops in which teachers and curriculum consultants planned modifications in materials and methods within the standard Board

of Education subject matter syllabi. In April 1970, an all-day curriculum conference was held at Hunter College for college consultants and Center personnel. Subject matter workshops were conducted and chaired by teaching personnel. English consultants arranged a special meeting at CUNY for chairmen and consultants in February 1967, and a general meeting of chairmen, English teachers, and consultants was held in April 1967. The purpose of these meetings was to plan ways of improving the composition work of CDD students.

The college consultants were also involved in some training of tutors. Some consultants visited tutoring sessions in the Centers and saw the need for helping tutors. They suggested remedial techniques, texts, and teaching procedures. At the behest of the consultants, an all-day tutor-staff conference was held in December 1968 under the joint chairmanship of the Coordinator of the CDD Tutorial Program and the Coordinator of College Consultants. Simulated tutorial sessions, previously videotaped, were presented at the conference as the basis for discussion and as a technique for training tutors.

In spite of the many and varied activities of the college consultants, Center Coordinators were singularly unenthusiastic and unimpressed by the contributions of the consultants to the improvement of the curriculum for CDD students. Three out of the five Center Coordinators characterized the consultants as ineffective and disappointing. With specified exceptions, their visits to Centers were infrequent. However, they were equally quick to mention those who, by their sustained interest and involvement, did add something to the program, usually teaching aides and equipment.

The general ineffectiveness of the consultants may be traced, in part, to the constant turnover among college faculty from semester to semester and from year to year. In 1965, fifteen faculty members were part time consultants. Retirements, illness, transfers, and changes in college teaching schedules, reduced to three persons the number who have continued for five consecutive years. In 1969-70 there were ten consultants, the equivalent of three full time faculty members; five positions remained vacant.

The most common complaint of the Centers was the irregular schedule of visits by most consultants, and the absence of clearly defined functions.

The arrangements were unstructured and haphazard. There was little consistency or continuity because of the lack of scheduling and the turnover. The consultants are very much aware of the ambiguity and the powerlessness of their position. Repeatedly they have recommended the need for clarifying their role in relation to chairmen, teachers and to one another. The flexibility of action and the independence of thought that are prized by college faculties do not necessarily articulate with the highly structured high school environment and its prescribed curricula. In fact, the senior interviewers and observers were most struck by the markedly traditional CDD curriculum and the absence of imaginative departures from traditional content and techniques.

Guidance Services[19]

Each Center has two full-time guidance counselors. In 1969-70, CDD enrollments led to a pupil load per counselor ranging between 110 and 130 students. The division of labor among counselors varied from Center to Center. Three patterns were reported: (a) 1 handling Sophomores, the other Juniors, with Seniors divided between the two counselors; (b) 1 handling Sophomores and the other handling Juniors and Seniors; (c) 1 handling Juniors, the other Seniors, with Sophomores divided between the two counselors. Since the largest class is the 10th-grade one, it would appear that patterns (b) and (c) provide more equitable counselor loads than pattern (a).

Guidance is given individually and in groups. Individual guidance is immediately brought to bear on entering 10th graders. Each one is met individually during the 10th year: sometimes once in the fall and again in the spring, at other Centers twice each semester, in still other instances just once during the fall term. With two interviews per student, the first is a general one, the second is for program planning. As the need may indicate, individual sessions are also devoted to health needs, academic difficulties, behavior problems, and other personal problems.

Since 10th-graders have their own CDD homerooms, as do upper classmen in some but not all Centers, guidance counselors visit these homerooms (in one Center, daily), as well as double-period classes in later grades,

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[19]This section is based on notes of interviews with guidance counselors conducted by Mrs. Kay Murray. Guidance services are covered in the annual reports of the Project Coordinator (Nos. 21, 22, 23, 24).

to schedule appointments and for group guidance activities devoted, for example, to orientation to the school, study habits, vocational and educational guidance, and other matters of current concern (e.g., drugs, sex education). Classroom sessions keep counselors in continual contact with teachers, who can discuss student problems with them. Space for group guidance sessions is sometimes a problem.

The counselors from all five Centers meet as a group monthly to discuss common problems, exchange views, and learn of new developments in educational and vocational guidance. Some Center guidance counselors reported excellent assistance by a College Guidance Consultant; others reported no contact with guidance consultants.

In one Center, much guidance counselor activity was devoted to absenteeism from school and classes. Absentees were phoned on the day of absence. In consequence, absenteeism was sharply reduced and kept low--below that of nonCDD students in the host school.

College Coordinators

The College Discovery Coordinators, one in each unit of The City University, are responsible for providing to CDD graduates in their unit general orientation and educational and personal guidance and counseling. They also oversee matters of finances, stipends, books, and fees. A questionnaire was sent to these persons and 14 responses were received (from seven senior colleges, six community colleges, and one urban center).

Of the seven senior college coordinators, five had served for one year, the other two for two years. They met with students, variously, from weekly to twice a semester--mostly for administrative purposes, with such meetings called by the coordinator. Less often, students sought out the counselor to discuss personal and academic problems.

Some of the coordinators described the students as hard working, strongly motivated, more appreciative and serious than their nonCDD classmates. Other coordinators found no differences. Among the various comments about the students and the high school CDD Program were:

The Program motivated them and made them conscientious.

They learned the meaning of success.

They have confidence in themselves and a sense of perspective about college.

They are better able to budget their time and do consistently better than the other special program students.

Some are academically well prepared; others, less so, less highly motivated.

The Program fostered a good deal of dependency.

Too much reliance on counseling. They cannot estimate their own financial needs because this has been done for them by their counselor for two years.

They don't have a realistic notion of the difficulty of some college courses and of their own limitations and weaknesses.

Comments from community college coordinators were in the same vein, and their activities and tenure were comparable to the senior college ones. The one Urban Center respondent saw no differences between CDD and nonCDD students.

The senior college coordinators recommended more career programming and more visits to college campuses during high school. Community college recommendations were rather general: "opportunity to develop as independent individuals with sufficient assertiveness and confidence in themselves and their ideas," "getting them to inquire into what they need to know," "stronger emphasis and rationale for liberal arts," "some contact with college level work."

With respect to implications for the high school CDD Program, this modest inquiry of college coordinators seems to point to the desirability of progressive loosening of the counseling reins during high school and, if possible, a foretaste of college-level work, responsibilities, and conditions, perhaps during the final semester of high school.

Observation of Classroom Instruction

Small classes and double periods ostensibly provide opportunities for instructional behaviors not as easily possible in larger classes of ordinary size. One might expect, for example, more work with individual students, closer student-student and student-teacher relationships and, perhaps, less formality in teaching techniques. With more attention to the individual student, perhaps greater student interest in subject matter might be anticipated. With CDD teachers defined as mostly ones with a special interest in the Program, they might possibly show greater interest in their work with CDD than with nonCDD classes. On the other hand, it may be more reasonable to expect that the teacher brings his per-

sonality and his ways to all his teaching.

To investigate the kinds of phenomena illustrated above, 15 CDD classes and an equal number of nonCDD classes of the same teachers were observed; one additional CDD class not paired with a nonCDD class was also observed.[20]

Procedures. Time constraints made it necessary to confine observations to the last two weeks of regular classes--ones in which there were the characteristic end-of-term interruptions and special events--and to a schedule mutually convenient to teachers and observers. Accordingly, it was not possible to follow the ideal procedure of selecting classes at random. Instead, the teachers were those who were willing to be observed. Time constraints also limited observations to three of the five Centers (selected at random) and to four double-period classes--the others being single-period classes. Observations were carried out in classes in: Spanish, French, World History, Algebra, Geometry, Trigonometry, Earth Science, Biology, Chemistry, English, Radio and Television, and Economics. In most instances, the paired classes dealt with the same stage of teaching of the same subject matter.

The observation scale contained 10 items, one of which is illustrated below, pertaining to classroom discipline.

extremely strict ——————————————————— extremely permissive

The observer was asked to mark an X at the point on the line that, in his judgment, best represented the type of discipline exhibited by the teacher. These marks were quantified as the percentage of the distance from the left edge of the scale, to the nearest 5 percent. An X at the left edge was 0, in the middle 50, at the right edge 100; other positions were assigned intermediate values.

The question of the reliability of these ratings by observers immediately arises. To provide a measure of reliability of ratings, it was possible to arrange for two observers in 14 of the 31 classes observed. In other instances, scheduling difficulties and the reluctance of some teach-

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[20] A formal observation schedule was prepared by Professor Duker, and observations were carried out by Mrs. Kay Murray, who also scheduled the visits, and by the four Brooklyn College professors named in Footnote 17, p. 65.

ers to be observed by two people at once led to a single observer. In all there were 45 observation reports on 31 classes. For the fourteen sets of double observations, the mean reliability coefficient (by the Spearman-Brown equivalent forms method) was found to be .54.[21]

Results. The 10 features observed are listed in the left-hand column of Table 39, with the scale values at the extremes identified in columns 2 and 3. Before examining the findings toward the right half of the table, consider what one might expect. Friendly attitudes and interest in the subject matter are unarguably desirable, as represented by a scale value close to zero. Out-of-class activity, as another index of high student interest, is also desirable, represented by a scale value close to 100. Regarding discipline, it is probable that a sensible balance between extreme permissiveness and extreme strictness should be maintained, represented by a scale value of about 50. Probably a balance should be struck between a student-dominated and a teacher-dominated classroom atmosphere, depending in part on the maturity of student behavior. For several of the other clasroom-climate variables it is less easy to specify what is desirable; desirability varies with one's educational philosophies, with the subject matter being taught, and with student abilities and behaviors. For example, individual work might be desirable in some instances, group interaction in other instances. There is a time to lecture and a time to discuss. In any event, the observation findings are displayed in Table 39 on page 93.

The data on classroom climate, displayed in Table 39, show significantly more individual work in CDD than in nonCDD classes. As compared to nonCDD classes, CDD classes show nonsignificant trends toward stricter discipline, friendlier relations among students, and greater student interest in the subject matter. There is nothing to choose between the two types of classes with respect to democratic atmosphere, teachers' interest in their subject, teacher-student relations, teaching method, or extent of out-of-class activity.

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[21]The 14 coefficients ranged between .90 and .41, excluding two negative ones. The negative ones represent an aberration not readily explainable; without them, mean reliability was found to be .66, probably closer to the "true" reliability of the rating scales for the very small sample of 14 pairs of observations.

Table 39

Observers' Ratings of Classroom Climate in CDD and NonCDD Classes

Variable	Scale Value		Range		Mean			SD		t
	from left (0)	to right (100)	CDD	Non CDD	CDD	Non CDD	Diff.	CDD	Non CDD	Betw. Means
Discipline	strict	permissive	20-95	20-100	60	50	10	20	25	1.46
Democratic atmosphere	teacher-dominated	student dominated	5-70	0-80	34	36	- 2	20	28	.00
Teacher-student relations	friendly	hostile	0-45	10-70	22	25	- 3	16	15	.63
Student-student relations	friendly	hostile	0-75	0-75	32	40	- 8	16	17	1.57
Students' interest in subject	fascinated	bored	0-70	5-70	27	36	- 9	18	18	1.62
Teachers' interest in subject	fascinated	bored	0-45	5-50	18	20	- 2	13	13	.50
Nonteaching activity	individual work	group interaction	0-65	0-100	20	51	-31	17	34	2.24*
Teaching method	discussion	lecture	10-95	0-85	35	32	3	24	20	.44
Out-of-class activity	no evidence of	much evidence of	0-90	5-95	47	53	- 6	28	28	.66

Note. N = 24 observations of 16 CDD classes and 21 observations of 15 nonCDD classes.

*p <.05.

In both CDD and nonCDD classes, discipline tended toward a middle ground; instruction was more nearly teacher-directed than student-directed, but not extremely so; relations were friendly; interest in the subject matter was high, but higher among teachers than students; group and individual work was found in equal proportions in nonCDD classes, but more individual work was found in CDD classes; teaching methods tended more toward discussion than lecture; and there was moderate evidence of out-of-class activity (i.e., homework and other pertinent academic activities).

In all, the general picture of instruction in all classes is a favorable one, although there appear to be no consequential distinctions between CDD and nonCDD classes bearing on the opportunities created by smaller classes or by the intensive focus throughout the CDD Program on motivation toward school and on academic interests.

Frequency of Student-Teacher Interactions. The amount of overt activity by students (in contrast to passive listening) was also examined. Activity is taken by learning psychologists to be a hallmark and requirement for learning. The passive student may be listening and learning; then again he may not--if he is inactive, there is no way to know. On the other hand, if the student asks a question or answers one, we know he has been attentive, and one can judge from his questions and answers whether he is learning. The teacher who is aware of the importance of student activity asks many questions, encourages questions from students, and in other ways fosters activity, rather than passivity, among students--preferably activity whose pertinence to learning can be adequately monitored and assessed.

To investigate "activity frequency" as measured by questioning, observers were asked to tally, during a measured 15-minute interval, the number of questions asked and answered by students and teachers. Usable data were available for 11 CDD classes and 12 nonCDD classes monitored by one observer. The findings are displayed in Table 40 (p. 95).

Perhaps the most striking datum of Table 40 is that an average per class of 37.3 question-answer interchanges took place in 15 minutes; teachers were asking questions at the rate of about 1 per minute (15.7 in 15 minutes). The teacher is not "talking at" a passively listening class. Instead, students are heavily involved in overt learning acti-

vities, at an average rate of more than 1 question or answer per minute (18.3 in 15 minutes).

Table 40

Question and Answer Frequencies During a 15 Minute Period In CDD and NonCDD Classes

Type of Activity	11 CDD Classes		12 NonCDD Classes		All 23 Classes	
	Total	Per Class	Total	Per Class	Total	Per Class
Asked by teacher	161	14.6	201	16.8	362	15.7
Answered by teacher	36	3.3	38	3.2	74	3.2
Teacher activity	197	17.9	239	19.9	436	19.0
Asked by students	30	2.7	33	2.8	63	2.7
Answered by students	158	14.4	200	16.7	358	15.6
Student activity	188	17.1	233	19.4	421	18.3
Asked by both	191	17.4	234	19.5	425	18.5
Answered by both	194	17.6	238	19.8	432	18.8
Total activity	385	35.0	472	39.3	857	37.3

Although the frequencies for nonCDD classes are slightly higher than those for CDD classes (per class), the differences are not statistically significant. That is, there is nothing in these data to show that the smaller CDD classes lead to a higher volume of verbal interchanges between student and teacher. Here and in the earlier data of Table 39, there seems little to choose between the behavior of CDD teachers in their CDD classes and their nonCDD classes. In all classes, the volume of overt, learning-related activity by students is gratifying.

One other feature of the data of Table 40 may be mentioned: teachers answered more questions than they were asked by students. The difference presumably lies in questions asked by teachers that students could not answer, ones which the teacher answered himself. A large number or proportion of such questions would suggest a need for dominance by the teacher. A small number (as in Table 40), especially in view of the very large proportion of teacher questions that were answered by students, may represent an attempt to assess the ceiling of students' knowledge or understanding, which is desirable.

Chapter V

ACADEMIC ACHIEVEMENT AND MOTIVATION: CDD VERSUS COMPARISON GROUPS[22]

In Chapter III the academic achievement and motivation of CDD students were considered, for the most part, in absolute terms--that is, in relation to the hypothetical ideal of attainment by all CDD students of each formal Program objective, taken literally. A more pertinent and realistic test of the viability of the CDD Program lies in comparisons of the academic and motivational status of CDD students in relation to that of appropriately constituted groups of nonCDD students. Accordingly, the question to which the present chapter is addressed is: Do the academic achievement and school motivation of CDD students differ from those of selected nonCDD students in ordinary high school programs?

For the purposes, it was necessary to undertake a substantial program (a) of identifying, on a student-by-student basis, appropriate comparison groups, (b) of copying of school records of these students in 56 different high schools, and (c) of testing these and CDD students in 49 different high schools. Certain of the desired information for CDD students (grade point average, attendance records, Regents test scores, 9th-year reading scores) was taken from the punched-card files of the office of the Program Director. Those punched-card data on CDD students are on a semester-by-semester basis, not cumulative, because the major longitudinal studies of the office of the Program Director deal with sequential, not cumulative, data. Since all the evaluation activities bearing on the purposes of the present chapter necessarily had to be confined to the final weeks of the spring 1970 school term, there was no option but to collect the parallel information on nonCDD students on a semester basis also. It was not possible to accomplish reorganizing of the data in cumulative fashion and analyses of cumulative data. Accordingly, although data collection procedures are described in detail here, only the general tenor of the findings from data on a semester basis are presented.

Procedures

The procedures bear on identification of appropriate comparison groups, the measures of motivation and achievement employed, test administration

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[22]The work described in this chapter was carried out by Professor Theodore Abramson.

conditions and modes of data analysis. These are described in turn following mention of a number of constraints that led to the omission of some data from that which might optimally be desired.

One constraint was the deliberate exclusion of CDD I because the first year of any large-scale program typically has many problems that may make the results of first-year operation atypical. A second omission was of test data on CDD II students and their comparison groups--because they were graduated in 1969. Another constraint arose from the fact that the desired information for each student in high school files resides in several different records, not one. Limitations of time and budget made it necessary therefore, to forego some information for some subsamples of students. However, since the data were collected and analyzed on a longitudinal basis (year by year), the occasional omissions are of little consequence in that they could have little effect on the inferences drawn from the large amount of data that were collected. The particular omissions are identified in various table footnotes.

The achievement and motivation of CDD students in Classes II, III, IV, and V were compared to those of two types of students in ordinary high school programs, as follows:

Rejectees. These are students who were nominated for the CDD Program by junior high school counselors, but who were not accepted for the Program by the CDD staff and subsequently entered ordinary academic or commercial programs in the public high schools of New York City. Although rejectees, by definition and as shown in Tables 10, 17, 18, 20, and 21, were found to be inferior to selectees, those rejectees who were tested for evaluation purposes were found to have 9th-grade reading levels approximating the 9th-grade reading levels of CDD students (i.e., within a few months above or below CDD 9th-grade reading levels; see Table 42, p. 100). Also, since socioeconomic disadvantage was a precondition for nomination, it may be assumed that most, if not all, rejectees approximated the status of CDD students with respect to socioeconomic disadvantage. For reasons of time and budget, rejectees were selected from high schools that had at least 5 such students enrolled. Of 64 such schools, 12 permitted access to their student records and another 44 schools gave access to records and also permitted the testing of these students.

NonCDD Groups. A second comparison group consisted of academic students in the nonCDD Program in the five host schools, thus holding constant those aspects of school environment that were alike for CDD and nonCDD students. Among all such students, those selected for study here were (a) on the free-lunch list--a measure of socioeconomic disadvantage and (b) had fair-to-good 9th-grade abilities as inferred from a reading grade level in the 9th grade of at least 8.0. As with rejectees, later evidence showed the mean 9th-year reading level of nonCDDs to approximate the mean 9th-year reading level of CDD students (see Table 42, p. 100).

Measures of Motivation and Achievement. School attendance, as measured by number of absences, was one index of school motivation. The other was score on the "Survey of Study Habits and Attitudes" (SSHA), administered to (a) Rejectees, (b) nonCDDs, and (c) CDD students. The SSHA generates two subscores: SH (study habits), SA (study attitudes) and a total score, called SO (study orientation). The SSHA measures traits other than those typically tapped by achievement tests and has been shown to make a useful contribution to the prediction of academic achievement (see Buros' Sixth Mental Measurements Yearbook).

There were four measures of achievement: (a) the MAT, High School Battery, Form BM, measuring reading and arithmetic skills, (b) the CUNY Open Admissions Tests, also measuring reading and 9th-year arithmetic skills, (c) Regents or Citywide test scores in specified school subjects, and (d) grade point average. Measures (c) and (d) were taken from the records of CDD students, Rejectees, and nonCDDs. Measure (b) applies only to high school graduates of June 1970; measure (a) was administered to the three groups of examinees in May-June 1970.

Test Administration. A 2-hour testing period was made available by the the participating schools. The CDD Coordinators in the five Centers arranged for the testing of CDD and nonCDD students in the five host schools, although test administration was carried out by the evaluation staff. In one school, enough time was provided only for administration of the SSHA and not the MAT to CDD students. In another host school, neither CDD nor nonCDD students were notified by the Center Coordinator to appear for testing. A last-minute telephone campaign to reach a sample of these students succeeded in attracting only a small number to appear for testing. In a

third school, errors by the evaluation staff in scheduling test room assignments necessitated the discarding of MAT arithmetic scores of the students in two classrooms.

The consequence of these difficulties, of the reduced participation in nonCDD schools because of the lateness of the school year, and of the reluctance of Rejectees and of nonCDDs to appear for testing--in relation to the attitudes of the essentially captive population of CDD students--was to reduce Rejectee and nonCDD examinees to relatively small numbers. Thus, while CDD examinees probably constituted a representative sample of all CDD students, it might be supposed that Rejectee and nonCDD examinees were not representative of their populations; from their willingness to be tested, it might be inferred that they are superior students. However, as mentioned earlier, the 9th-year reading level of these students differed little from that of CDD students. It seems permissible to assume that all examinees were reasonably representative of the populations from which they were drawn (Table 42, p. 100). In fact, if there was a difference in 9th-year reading, it probably favored the CDD students.

Table 41

Data Collection Design for CDD and Two Comparison Groups

Group	Variable								
	Attendance	SSHA	9th-Yr. Reading	MAT		Open Adm.		Regents & Citywide	GPA
				Read.	Arith.	Read.	Arith.		
CDD II	x							x	x
Rejectee II	x							x	x
CDD III	x	x	x	x	x	x	x	x	x
NonCDD III	x	x	x	x	x	x	x	x	x
Rejectee III		x	x	x	x	x	x		
CDD IV	x	x	x	x	x			x	x
NonCDD IV	x	x	x	x	x			x	x
Rejectee IV	x	x	x	x	x				x
CDD V	x	x		x					x
NonCDD V	x	x	x	x	x				x
Rejectee V		x	x	x	x				

Data Analyses. Mean scores on the various measures among the three types of examinees were subjected, as appropriate, to analyses of variance and covariance. In the last-mentioned instance, one or another reading test score (9th-year, current MAT, Open Admissions) was used as the covariate. From test to test and comparison to comparison, the numbers of students vary, as shown in the tabled findings.

The data collection design is summarized in Table 41 (p. 99) showing by an x in the cell what data were available for each subsample of examinees. Note that the data are treated longitudinally; for example, non-CDD III and Rejectee III are so labeled because their high school attendance years paralleled those of CDD Class III.

The approximate comparability of the various groups in reading level in the 9th grade is evident from the data of Table 42.

Table 42

Mean 9th-Grade MAT Reading (Grade-Level) Scores Of CDD and Comparison Groups[a]

Class	CDDs		Rejectees		NonCDDs	
	Mean	N	Mean	N	Mean	N
III	11.1	56	9.0	26	9.9	37
IV	9.3	132	9.3	14	9.4	70
V	--[b]	--[b]	9.2	28	9.8	36

[a]The scores apply to those students who were subsequently tested on the MAT and SSHA.

[b]The necessary records were not in a form permitting their processing.

Results

Results are presented in three sections: (1) data culled from records (GPA and absences, by semester, and Regents and Citywide test scores); (2) test data (SSHA, MAT, Open Admissions); and (3) correlations between motivation scores (SSHA) and standardized reading and arithmetic test scores (MAT and Open Admissions). The tabled findings to which the discussion of results apply appear in sequence following the discussion (pp. 104-107). For CDD II and III and their comparison groups, data potentially apply to the

six senior high school semesters completed by those 1969 and 1970 graduates; for CDD IV and their comparison groups, data potentially apply to the four semesters of senior high school work completed to date by them; CDD V and comparison data apply to two semesters of high school. In some instances, potential data for some semesters was not in fact available, as specified in table footnotes.

Records Data

Mean GPA and mean number of absences for CDD II-V and their respective comparison groups are shown in Tables 43 and 44. Rejectees are divided into those following academic and commercial programs in their schools, but the means for commercial majors apply to their academic, not commercial, subjects.

Grade Point Average. The significant differences in GPA are identified in the footnotes to Table 43, (p. 104). Overall, with 16 possible comparisons (arising from 2 to 5 semesters applicable to 4 Program years) there were four significant differences: three favoring CDD students and one favoring nonCDD students. For the other 12 comparisons, there were no significant differences in GPA. It may be concluded that, in general, the CDD Program did not lead to higher school achievement, as measured by GPA, than did ordinary high school programs.

Attendance. Results (Table 44, p. 105) were comparable to those for GPA. Of 15 possible comparisons, 2 were significant: 1 favoring CDDs and 1 favoring nonCDDs; for the other 13 comparisons, differences were not significant. In general, the motivational tactics employed by the CDD Program did not lead to superior attendance, as compared to the attendance of students in ordinary high school programs.

Although GPA and attendance data by Center are not shown here, there were few significant interCenter differences and these few varied among Centers from semester to semester.

Regents and Citywide Test Scores. Results (Table 45, p.106) should be considered in the light of CDD students typically taking these tests later in their school years than is typical for students in ordinary programs. CDD personnel wished to give their students more preparation for these tests. One might therefore expect superior CDD performance for that reason alone. Of the 12 comparisons, there were two significant ones: one favoring CDD (English) and one favoring nonCDD (Mathematics). No

significant differences were found for three science comparisons, three foreign language comparisons, two history comparisons, two of the three Mathematics comparisons, and one of the two English comparisons.

It may be concluded that, in general, the CDD experience did not lead to superior Regents and Citywide test performance, as compared to that of nonCDDs and Rejectees. It is of interest to note (Table 45, p. 106) that, for the most part, the mean mathematics score was below the minimum passing grade (65) for CDD as well as for comparison students.

Test Data

Mean scores on the SSHA and on the reading and arithmetic tests (MAT and Open Admissions) are shown in Table 46 (p. 107). Covariance analysis was applied to the SSHA scores, holding statistically constant differences in current reading level (right-hand column of Table 46). For CDD III and IV and their comparison groups, analysis of covariance was used for current reading and arithmetic scores, holding statistically constant the 9th-year reading scores of examinees. For CDD V and their comparison groups, there were no available data on prior status; analysis of variance, not covariance, was used.

Of the six SSHA comparisons, none were significant. On the other hand, all three reading comparisons and two of the three arithmetic comparisons favored CDD students. (The reading and arithmetic data of Table 46 are in raw score, not grade level, form.) It may be concluded that despite the massive attention to motivation of CDD students, the school attitudes of students in ordinary high school programs were comparable to those of CDD students. The superiority of CDD students on the standardized measures of reading and arithmetic is not in keeping with the absence of significant differences in academic GPA or in Regents and Citywide tests (Tables 43, 45, pp. 104-106). What these standardized tests measure, is of course, only a portion of what is measured in subject-matter tests and other student performance reflected in teachers' grades.

Intercorrelations. As a sole predictor of achievement the SSHA is a rather weak one for these CDD and comparison students; the median of the 24 correlations shown in Table 47 (p. 107) is .12. However, the SSHA is not intended for use by itself. Added to other predictors, it increases the accuracy of prediction. The SSHA subtest scores (not shown) are highly

intercorrelated, but not so highly as to justify elimination of one of the two subtests. It was also found, inevitably, that 9th-grade reading scores are more highly correlated with current reading scores than with current arithmetic scores. Two measures of the same thing should be expected to show more agreement than measures of two different performances.

Summary

CDD students were superior to their comparison groups on standardized measures of current reading and arithmetic proficiency in 5 out of 6 instances. In relation to the number of possible differences, there were few that distinguished CDD students from nonCDDs and from Rejectees with respect to grade point average, Regents and Citywide test scores, school attendance or the SSHA measure of school motivation. Exclusive of the 6 comparisons on the standardized tests of reading and arithmetic, of the total of 48 other possible comparisons, significant differences were found in 8 instances; of these, 5 favored CDD students and 3 favored the nonCDD comparison group. It seems necessary to infer that the CDD Program has not in general, led to student achievement and motivation in excess of the achievement and motivation of students in ordinary high school programs. Of course, this summary inference must be weighed in the light of the extent of comparability of Rejectees and nonCDDs with CDD students. There were no available means of identifying comparison groups that could be shown to be comparable to CDD students with respect to all the criteria for CDD selection. At the same time, the socioeconomic status of comparison groups was fairly comparable to that of CDD students insofar as free lunch is typically offered only to students whose families receive some form of public financial assistance. For the most part, rejectees also met socioeconomic status. Finally, the 9th-grade reading proficiency of comparison groups was within a few months above or below that of the CDD sample involved in the testing phase of the present evaluation (Table 42). Accordingly, the major inference about the outcomes of the CDD Program in relation to the outcomes of ordinary high school programs seems reasonable.

Table 43

Mean GPA of CDD and Comparison Groups and Significance Tests

Group	Mean N[a]	Range of Means	Grand Mean	No. of p's	No. of Significant p's
CDD II	326	69.2-73.3	71.9		
Academic Rejectees II	73	69.9-73.9	71.4	5	1[b]
Commercial Rejectees II	108	69.4-73.3	71.1		
CDD III	197	70.5-73.7	72.1	5	2[c]
NonCDD III	72	69.8-75.6	72.6		
CDD IV	340	69.2-73.4	71.2		
Academic Rejectees IV	28	67.5-72.6	70.4	4	0
Commercial Rejectees IV	26	71.7-74.0	72.8		
NonCDD IV	105	71.0-72.4	71.8		
CDD V	274	70.8-72.5	71.2	2	1[d]
NonCDD V	86	66.8-68.6	67.7		

[a]The average, by semester, of those for whom data were available.

[b]Of the five semester comparisons from fall 1966-spring 1969, the only significant one was for fall 1966 in favor of the CDD group ($p<.01$) over both academic and commercial rejectees. (Data for spring 1967 were not available.) For the fall 1966 semester, the CDD mean was 73.3 and the academic and commercial rejectee means were, respectively, 69.9 and 69.4.

[c]Of the five semester comparisons (fall 1967-spring 1970), the two significant comparisons were for fall 1968 in favor of nonCDDs ($p<.05$) and spring 1970 favoring CDDs ($p<.05$). The means for CDDs and nonCDDs for fall 1968 were 72.6 and 75.6; for spring 1970, 73.2 and 69.8.

[d]Of the two comparisons (fall 1969 and spring 1970), the spring 1970 comparison favored the CDD group ($p<.01$). The means for CDDs and non-CDDs were 70.8 and 66.8.

Table 44

Mean Number of Absences of CDD and Comparison Groups
And Significance Tests

Group	Mean N	Range of Means	Grand Mean	No. of p's	No. of Significant p's
CDD II	266	8.5-12.7	11.2		
Academic Rejectees II	46	9.5-13.8	10.6	4	0[a]
Commercial Rejectees II	74	9.8-11.6	10.7		
CDD III	199	6.1- 9.9	8.9	5	2[b]
NonCDD III	70	6.0-12.7	9.7		
CDD IV	267	6.9-11.4	9.7		
Academic Rejectees IV	20	7.2- 8.9	7.9	4	0
Commercial Rejectees IV	18	6.5-11.8	8.9		
NonCDD IV	74	7.5-12.5	10.9		
CDD V	255	8.7- 9.2	9.1	2	0
NonCDD V	46	9.2-12.3	10.7		

[a]Attendance data was not available for fall 1966 and spring 1967. Thus the only comparisons were for the four semesters from fall 1967 through spring 1969.

[b]Of the five comparisons from fall 1967 through spring 1970, the two significant ones were for fall 1968 favoring nonCDDs ($p < .05$), with means of 8.5 and 6.0; and for spring 1969 favoring CDDs ($p < .05$), with means of 9.9 and 12.7.

Table 45

Mean Regents and Citywide Test Scores of CDD and Comparison Groups and Significance Tests

Group	Means														
	Math			Science			For. Lang.			English			History		
	Mean	N	p	Mean	N	p	Mean	N	p	Mean	N	p	Mean	N	p
CDD II	54.9	208		64.1	234		71.8	197		71.8	242		72.2	147	
Academic Rejectees II	61.1	26	NS	65.2	25	NS	66.1	23	NS	68.8	22	.01[a]	69.7	21	NS
Commercial Rejectees II	63.3	6		52.7	6		87.5	2		56.7	3		70.7	3	
CDD III	54.4	238	NS	64.5	238	NS	67.0	147	NS	70.1	145	NS	71.7	141	NS
NonCDD III	47.6	17		66.8	25		72.2	13		74.6	16		73.7	11	
CDD IV	48.7	377	.05[b]	66.9	387	NS	71.5	193	NS	--[c]			--		
NonCDD IV	56.1	39		69.3	49		71.6	15		--			--		

[a]The significant difference in the English regents resulted from the difference between CDD II and commercial rejects.

[b]Regents data of the rejectees were not available.

[c]The English and History regents are taken by seniors and thus had not yet been taken by CDD IV and NonCDD IV students, who began their senior year in September 1970.

Table 46

Mean SSHA, Reading, and Arithmetic Scores of CDD and Comparison Groups And Significance Tests[a]

Group	Tests							
	SSHA		Arithmetic[b]			Reading[b]		
	N	Mean	N	Mean	p	N	Mean	p
CDD III	62	94.2	31	28.7		31	39.7	
Rejectee III	13	101.0	25	16.2	.01[c]	25	23.5	.01[c]
NonCDD III	35	101.5	36	17.9		36	20.2	
CDD IV	149	96.2	120	19.0		121	22.8	
Rejectee IV	18	102.1	18	15.7	.01[d]	18	20.2	.01[e]
NonCDD IV	71	105.2	70	15.5		70	18.7	
CDD V	276	100.5	276	17.4		276	21.6	
Rejectee V	26	105.8	26	16.7	NS	26	17.2	.05[f]
NonCDD V	35	97.8	36	18.3		36	21.1	

[a]There were no significant differences among SSHA scores.

[b]For CDD III and their comparison groups, the Open Admissions tests were used; for all other groups, the scores are MAT scores. All the reading and arithmetic scores are in raw-score, not grade-level, form.

[c]The difference favored CDDs over both comparison groups.

[d]The difference favored CDDs over both comparison groups.

[e]The difference favored CDDs over nonCDDs.

[f]The difference favored CDDs over rejectees.

Table 47

Correlations of SSHA Scores with Reading and Arithmetic Scores[a]

SSHA with	Groups[b]							
	CDD		Rejectee			NonCDD		
	III	IV	III	IV	V	III	IV	V
Current Arithmetic[c]	.05	-.11	-.14	.19	.42	.04	.07	.20
Current Reading[c]	.06	.11	-.10	.23	.57	.12	.17	.33
9th Grade Reading	-.03	-.19	-.01	.37	.52	.12	.12	.33

[a]No data were available for CDD V.

[b]Going down the columns, the Ns were: CDD III (31, 31, 56), CDD IV (120, 121, 132), Rejectee III (25, 25, 26), Rejectee IV (18, 18, 16), Rejectee V (26, 26, 28), NonCDD III (36, 36, 37), NonCDD IV (70, 70, 70), NonCDD V (36, 36, 36).

[c]For CDD III and their comparison groups, the Open Admissions Test scores were used; for the other groups, the MAT.

Chapter VI

MANAGEMENT OF AND RESPONSIBILITY FOR PROGRAM OPERATIONS

The formal responsibilities and jurisdictions of the various staff members at the Board of Education, in the Centers, and at The City University were specified in Chapter I (pp. 4-6). The Program Director, Dr. Lawrence Brody, stressed during interview that, with respect to the conduct of CDD operations in the Centers, his office has advisory, not supervisory, functions. He and his colleagues seek to stimulate appropriate Center activities and to persuade, not direct, Center personnel to adopt various procedures, modifications in procedures, and philosophies. To that end, the Program Director meets regularly with selected Center personnel to discuss various aspects of Program activities and to propose such modifications as are judged desirable. Center Coordinators stated during interview that the Director's office has been of inestimable value in an advisory and consultative capacity and in making available special teaching materials.

However, the administrative structure of the CDD Program allocates some functions to the Centers and the Project Coordinator, others to the office of the Program Director. There is no single Program administrator with decision-making authority over all aspects of the Program. One case in point is the College Curriculum and Guidance Consultant feature. Consultants are selected by the University, but firm designation of and responsibility for their activities in the Centers have not been explicitly vested in any individual. The Centers are generally dissatisfied with the College Consultants; the Consultants are equally unhappy and uncertain about their obligations. Another notable instance of ambiguous responsibility is the tutoring program. From all the evidence, tutors have lacked firm administrative control. Their selection and portions of their training reside with the University; their activities are in the Centers. Tutoring records pertinent to reimbursement of tutors are sent to the Program Director's office, and those records reveal differential use of tutors in the Centers. The Program Director, however, has not felt it within his responsibility to examine hours of tutoring in relation to the numbers of students at each Center or to raise questions about the activities to which tutors are assigned. Here and elsewhere an authority vacuum has existed.

Another major area of ambiguity relates to the research function of the

office of the Program Director, one which the Program Director stated had never been clearly formulated. It appears that the Board of Education had considered the Director's annual longitudinal studies to be in satisfaction of the requirement that Title I programs be periodically evaluated. The Director has stated, however, that responsibility for evaluating Center activities and funding for such evaluation has never been formally vested in his office and, further, that it may be improper for any staff to evaluate activities for which it shares responsibilities. The present report results from the first Board contract specifically providing for evaluation of the CDD Program since its inception.

The longitudinal studies (CDD Report Nos. 7, 8, 15, 26), according to the Director, were intended to be purely descriptive. On the other hand, there have been a number of attempts at evaluation of particular features of the CDD Program and of Program outcomes, as given in the report of first-year operations (No. 26). In that report reference is made (pp. 20-21, 68-84, 86-98, 98-101, 103-103) to formal studies utilizing control groups for the purpose of examining achievement, attendance, holding power, college entrance rates, aptitudes, interests and attitudes of students, the effects of a summer program, and so on. However, the apparent evaluative intent expressed in the first-year report seems to have been largely abandoned thereafter in favor of purely descriptive accounts of Program features and operations. The differences between the first-year longitudinal study (No. 26) and later ones (Nos. 7, 8, 15) suggest that the professional interests and expertise of the Director to some extent determine the activities of his office.

The uncertainties about the roles of Center and University personnel have also affected the accuracy of Program records in the Director's office. In the judgment of the authors, Center personnel perceive their responsibilities to be ones of Program operation; less emphasis is placed on the need for accurate and up-to-date records as a possible basis for assessing the Program. One gains the impression that the furnishing of some types of information to the Director's office is viewed as a courtesy, rather than as a high-priority responsibility. Here, again, the absence of vested authority over all features of the CDD Program is felt.

Chapter VII

CONCLUSIONS AND RECOMMENDATIONS

This brief, final chapter is confined to the major issues. More particular matters have been treated in earlier chapters. The overriding question is one of whether the disadvantaged 9th-grade students of the College Discovery and Development Program would have attained comparable levels of motivation, achievement, college entrance, and college success had they been in regular high school programs. An additional consideration is the holding power of the CDD Program--in relation to the thesis that without a special program numbers of CDD students might have dropped out of school, thus reducing their own chances of life success and perhaps becoming a burden on society.

On these issues, the detailed evidence in earlier chapters suggests the following CONCLUSIONS:

1. With respect to senior high school achievement and motivation, there was little to choose between CDD students and modest numbers of non-CDD students who were comparable to CDD students in socioeconomic status and junior high school performance levels.
2. Concerning college entrance, no clear conclusions can be drawn because the Program guarantees entrance to a unit of The City University of New York to all who complete the Program through high school graduation and because the University's Open Admissions policy, first implemented in 1970, provides substantially the same opportunity to all high school graduates. Actually, a little less than one-sixth of Program graduates had grade point averages in high school (82 or higher) that would qualify a graduate of an ordinary high school program for admission to a senior college of The City University, had there been no Open Admissions. At the same time, high motivation for college is evident in the applications for college entrance of 95 percent of CDD graduates, a figure that may well not be equaled for graduates of ordinary high school programs, even under Open Admissions. These college applicants make up nearly five-eighths of those who entered the CDD Program in the 10th grade.
3. It is too early as yet to assess the college success of CDD graduates. Preliminary information based on two college years for the

graduates of the first CDD class and one college year for graduates of CDD Class II shows half of CDD I college enrollees and nearly 70 percent of Class II college enrollees as graduated from or still active in college. The foregoing findings apply to the three-fourths of college entrants attending a unit of The City University. Nothing is known about the present college status of the one-fourth of CDD graduates who were accepted for admission into a unit of the State University of New York or by private colleges.

4. Concerning holding power, two-thirds of initial enrollees in the first three CDD classes completed the Program through high school graduation. It was not possible to determine what proportion of Program leavers continued their education elsewhere and what proportion discontinued their formal education. Although no wholly appropriate comparison data could be identified, it does appear from the data available that the holding power of the CDD Program exceeds that of ordinary high school programs for comparable youngsters.

Several other major issues concern the attitudes of Program personnel and students toward the Program, the judged value of its component features, and Program management. On these issues, the conclusions are:

5. CDD staffs, especially senior personnel, have an extraordinary devotion to the Program and a heartfelt interest in its success. Students who remain in the Program for the most part also express strong loyalty to it.
6. Extensive guidance services, small classes, and curriculum enrichment through field trips were judged by students and staff to be exceptionally valuable. Other features varied in their perceived value, and still others were judged weak.
7. The relative weakness of some features of the Program (e.g., tutoring services, accuracy of records) might be due, in part, to the absence of vested authority for all aspects of the Program in one administrator. Where responsibility is divided, no one assumes it.
8. Although there have been changes in details, the initial prescriptions for Program operation are still, in principle, in effect. Such modifications as have been introduced seem to have been based

largely on subjective judgments and impressions. There has been little objective inquiry into the merits of Program procedures as a basis for possible modifications. A case in point is the process of selecting students for admission to the Program. Admissions criteria are sometimes not followed, and some appear to have questionable validity. Also, despite small classes and occasional new instructional materials, classroom instruction seems to have been largely conventional. No evidence could be found of striking departures from typical instruction, nor has there been, during the five years of program operation to date, close examination of classroom instruction.

Of the several RECOMMENDATIONS that are offered, the first arises from the severe limitations of time in the conduct of the present evaluation that precluded a large-scale and definitive assessment of CDD Program outcomes in relation to those of ordinary high school programs. Accordingly:

1. It seems desirable to identify a nonCDD student body of sufficient size that is demonstrably comparable in pertinent respects to CDD students as of junior high school graduation and to assess the relative status of these two groups with respect to motivation, school achievement, college entrance and college success. Comparable opportunities for college enrollment (e.g., Open Admissions) should be available to the two groups.
2. A cost-effectiveness study of the Program might be undertaken, preferably in relation to alternative investment of educational funds, e.g., in radical departures from conventional instructional methodologies and materials.

A number of other recommendations, implicit in some of the conclusions listed earlier, bear on possible improvement of the CDD Program and may be summarized in:

3. Vesting of administrative authority over all aspects of the Program in one individual might contribute to strengthening weaknesses in some Program features, tighten record keeping in a direction permitting more accurate description of Program conduct and assessment of Program effects, and foster a more imaginative and experimental attitude toward the characteristics of the Program.

These recommendations and some of the earlier conclusions notwithstanding,

an immense reservoir of devotion to the Program and its objectives is evident among Program personnel: the Program Coordinator at the Board of Education, the staffs of the five high school Centers, and the University's Program Director and his associates. Should the more detailed findings and recommendations of earlier chapters of this report be given impartial consideration by persons of such devotion, strengthening of the Program would seem a not unreasonable expectation.

BIBLIOGRAPHY OF CDD REPORTS

1. Adams, Ruth R. and Brody, Lawrence. An Evaluation of the Written Composition of High School Students in Five College Discovery Centers in New York City. New York: The City University of New York, Division of Teacher Education, Office of Research and Evaluation. Research Report No. 68-8, April, 1968. 16 pp.

2. Brod, Pearl. A Study of the Tutorial Program of CDDP. New York: The City University of New York, Division of Teacher Education, Office of Research and Evaluation. 1966-67 (mimeographed).

3. Brody, Lawrence. College Admission and Retention of CDD Graduates. Paper presented at the Tenth Annual Convocation of the Educational Research Association of New York State. November 6, 1969. 9 pp.

4. Brody, Lawrence. Discovering and Developing the College Potential of Disadvantaged High School Youth. A Proposal to the Human Resources Administration, May 15, 1967.

5. Brody, Lawrence and Harris, Beatrice. A Brief Progress Report on the College Discovery and Development Program (College Discovery, Prong 11). New York: The City University of New York, Division of Teacher Education, Office of Research and Evaluation. December 1, 1967. 9 pp.

6. Brody, Lawrence and Marin, Genaro. Why Do Teenagers Go To College? New York: The City University of New York, Division of Teacher Education, Office of Research and Evaluation. Research Report No. 68-11, July, 1968. 19 pp.

7. Brody, Lawrence and others. Discovering and Developing the College Potential of Disadvantaged High School Youth: A Report of the Second Year of a Longitudinal Study on The College Discovery and Development Program. New York: The City University of New York, Division of Teacher Education, Office of Research and Evaluation. Research Report No. 68-2, March, 1968. 185 pp.

8. Brody, Lawrence and others. Discovering and Developing the College Potential of Disadvantaged High School Youth: A Report of the Third Year of a Longitudinal Study on The College Discovery and Development Program. New York: The City University of New York, Division of Teacher Education, Office of Research and Evaluation. Research Report No. 69-1, March, 1969. 134 pp.

9. Feldman, Martha. Predictors of College Performance of CDD Graduates. Paper presented at the Tenth Annual Convocation of the Educational Research Association of New York State. November 6, 1969. 9 pp.

10. Freedman, Florence B. and Adams, Ruth R. The Themes They Choose: "Disadvantaged" Students Take a Composition Test. New York: The City University of New York, Division of Teacher Education, Office of Research and Evaluation. Research Report No. 69-5, May, 1969. 21 pp.

11. Freedman, Florence B. and Myers, Florence. The College Discovery and Development Program: Disadvantaged Youth Prepare for College. Journal of the National Association of Women Deans and Counselors, Vol. XXXll (Winter, 1969), 90-95.

12. Harris, Albert J. and Brody, Lawrence. A Brief Interim Report on the College Discovery and Development Program (College Discovery, Prong 11). New York: The City University of New York, Division of Teacher Education, Office of Research and Evaluation. November 28, 1966. 7 pp.

13. Harris, Beatrice. Motivational Factors Related to Achievement. Paper presented at the Tenth Annual Convocation of the Educational Research Association of New York State, Concord, New York. November 6, 1969. 8 pp.

14. Harris, Beatrice. Socio-Economic Variables as Predictors of Achievement Within Different Levels of Ability for Male and Female High School Students Identified as Disadvantaged. A Pilot Study, May, 1967 (unpublished manuscript).

15. Harris, Beatrice and Brody, Lawrence. Discovery and Developing the College Potential of Disadvantaged High School Youth. A Report of the Fourth Year of a Longitudinal Study. New York: City University of New York, Division of Teacher Education, Research and Evaluation Unit. Research Report 70-3, June,1970. 136 pp.

16. Kaye, Mildred. College Discovery and Development Tutorial Program, 1967-68. New York: The City University of New York, Division of Teacher Education, Office of Research and Evaluation. Research Report No. 68-14, October, 1968. 35 pp.

17. Kaye, Mildred. Organization and Administration of a Tutorial Program for Disadvantaged High School Students. New York: The City University of New York, Division of Teacher Education, Office of Program Development and Administration. Report No. 69-6, January, 1970. 56 pp.

18. Lachica, Genaro M. The CDD Graduate Speaks: The Student's Perception of His Preparation for College. Paper presented at the Tenth Annual Convocation of the Educational Research Association of New York State, November 1969. 3 pp and appendix.

19. Marin, Genaro. The Implementation and Development of a Group Counseling Approach with CDD Students. New York: The City University of New York, Division of Teacher Education, Office of Research and Evaluation. Research Report No. 68-9, June 1968. 22 pp.

20. Malkin, Samuel. Intervention for Success. Teacher Education News and Notes. New York: The City University of New York, Division of Teacher Education, Office of Research and Evaluation, Vol.20, No. 1. October-November 1968, pp. 6-9, 16.

21. Myers, Florence C. College Discovery and Development Report on Operations During the First Year, 1965-1966. New York: The City University of New York and the Board of Education of the City of New York. Undated. 22 pp.

22. Myers, Florence C. College Discovery and Development Program Report on Guidance Services 1966-67. New York: The City University of New York and the Board of Education of the City of New York. Undated. 7 pp.

23. Myers, Florence C. College Discovery and Development Program Report on Guidance Services 1967-1968. New York: The City University of New York and the Board of Education of the City of New York. Undated. 11 pp.

24. Myers, Florence C. College Discovery and Development Program Report on Guidance Services 1968-1969. New York: The City University of New York and the Board of Education of the City of New York.

25. Tanner, Daniel. The College Discovery and Development Program-- A First Report. Paper presented to the Educational Research Association of New York State. Albany, New York, October 19, 1965. 9 pp.

26. Tanner, Daniel and Lachica, Genaro. Discovering and Developing the College Potential of Disadvantaged High School Youth: A Report of the First Year of a Longitudinal Study on the College Discovery and Development Program. Division of Teacher Education, 1967.

27. Report of the Planning Committee - College Discovery and Development Program. Division of Teacher Education of the City University of New York and Board of Education of New York City. February 1, 1965.

28. Wilson, Thurlow R. and others. Compressed Survey Feedback As a Method for Conducting an Educational Conference. New York: The City University of New York, Division of Teacher Education, Office of Research and Evaluation. Research Report No. 68-5, January, 1968. 67 pp. and appendices.

29. Workshop of the College Discovery and Development Program. Held at Arden House, Harriman, New York, January 28-30, 1966. New York: The City University of New York, Division of Teacher Education, Office of Research and Evaluation. February, 1966. 69 pp.

30. Annual Reports of the Five High School Development Centers, 1965-66, 1966-67, 1967-68, 1968-69 (mimeographed).

31. Annual Title 1 - Project Description of the CDD Program. Board of Education of the City of New York: 1965-66, 1966-67, 1967-68, 1968-69, 1969-70.

Other References

Dentler, R.A. & Monroe, L.J. The family and early adolescent conformity. Marriage and Family Living, 23(3), 1961, 241-247.

Hamill, P. New York disaster. N. Y. Post, March 23, 1970, p. 35.

Kay, P. Open Admissions reading and mathematics tests, May 1970: General results, score distributions and comparison with national norms. The City University of New York, Division of Teacher Education: Report 70-7, June 1970.

New York State plan for the administration of occupational education under the vocational education amendments of 1968. Albany: State Education Dept., 1969 (mimeographed).

Perella, V.C. Employment of high school graduates and dropouts. Monthly Labor Review, 1969, 92(6), 36-43.

CITY UNIVERSITY OF NEW YORK
Division of Teacher Education

College Discovery and Development Program Evaluation

May 1970

Questionnaire for High School Students

In September 1965, the College Discovery and Development Program was started in five high schools in New York City. Its purpose was to identify young people from disadvantaged backgrounds with unrealized academic potential, to improve their motivation as well as their achievement in school and to improve their expectations and chances for college entrance and success.

You are one of the students who has been in this Program. We would like you to tell us your reactions to the Program as honestly and as frankly as possible. We want to know what you liked, what you disliked about the Program and your suggestions for improving it. Anything you say will be kept confidential. Nobody but the person to whom you speak will know who you are and what you say. Your comments may be crucial for the future of the Program.

You may refuse to answer questions that you think are improper or violates your privacy. Thank you for your cooperation.

Dr. Edward Frankel

CITY UNIVERSITY OF NEW YORK
Division of Teacher Education

College Discovery and Development Program Evaluation

May 1970

Questionnaire for High School Students

Date _____

School _____ Sex of student _____

Ethnic designation _____ Present class _____

Interviewed by _____ Number of years in Program _____

High School Experiences

1. What part of the CDD Program helped you in school during each of the following years? Write (1) next to the item that was most helpful, and (2) for the next most helpful item each year.

Program	tenth year	eleventh year	twelfth year
(a) small classes			
(b) double periods			
(c) tutoring			
(d) guidance			
(e) teachers			
(f) subjects			
(g) class mates			
(h) others			
(i) others			

Comment:

2. What part of the Program was not helpful in school. On the chart above, write X next to the item in each column that was least helpful and Y for the next least helpful item.

3. How well did you do in school for each of the following years as compared to your classmates? (Check one in each column)

Achievement	tenth year	eleventh year	twelfth year
(a) very good			
(b) above average			
(c) average			
(d) below average			
(e) very poor			

Comment:

4. How well did you do in high school as compared to what you expected?

Achievement	tenth year	eleventh year	twelfth year
(a) much better	____	____	____
(b) a little better	____	____	____
(c) as expected	____	____	____
(d) somewhat poorer	____	____	____
(e) much poorer	____	____	____

Comment:

5. What advantages or disadvantages did you have over students not in the program?

6. Would you recommend this Program to your friends? _____
If yes, why?

7. To what extent has the Program changed your attitudes toward the following:
Check one for each of the ten items.

	Rating Scale				
	Much better	Somewhat better	About the same	Somewhat worse	Much worse
1. Do well in high school	____	____	____	____	____
2. Do college work	____	____	____	____	____
3. Be a leader	____	____	____	____	____
4. Work on my own	____	____	____	____	____
5. Speak before a group	____	____	____	____	____
6. Express myself in writing	____	____	____	____	____
7. Think clearly	____	____	____	____	____
8. Get along with others	____	____	____	____	____
9. Self confidence	____	____	____	____	____
10. My appearance	____	____	____	____	____

8. Do you plan to go to college? _____
If yes, which one? _____
What course of study are you planning to take? _____
What vocation do you plan to enter? _____

9. My general estimate of CDD Program is: (check one)

___ excellent, ___ good, ___ fair, ___ poor, ___ awful.

10. How do you think the Program can be improved?

HERBERT H. LEHMAN COLLEGE
OF THE CITY UNIVERSITY OF NEW YORK

BEDFORD PARK BOULEVARD WEST
BRONX, NEW YORK 10468

OFFICE OF
INSTITUTIONAL RESEARCH

(212) 933-6000

DATE: May 28, 1970

TO: CDD Coordinators in Colleges of The City University of New York

FROM: Dr. Edward Frankel, Evaluator

RE: History of College Discovery and Development Program

The CDD Program is now in its fifth year. Students who were in the first class, CDD I, in 1965 and have remained in the Program are now completing the second year of college. Students in the second class, CDD II, are finishing their first year of college. The purpose of the CDD Program is to identify ninth graders from disadvantaged backgrounds with unrealized academic potential, to improve their motivation and achievement in high school and to improve their expectations and chances for entrance and success in college. We have some information about the CDD Program in the high school centers. We also need some data about the effects of the Program on CDD graduates in college over the past two years.

Will you please answer the questions which follow and return the questionnaire to me in the self addressed envelope no later than June 15, 1970. Please make every effort to meet this date.

I may be reached at Herbert H. Lehman College at WE3-6000 Ext. 651.

Thank you for your cooperation.

EF:rs

COLLEGE DISCOVERY AND DEVELOPMENT PROGRAM

College Coordinator's Questionnaire

Spring 1970

College _____ Date _____

Your Name _____ No. of Years as College Coordinator _____

1. What are your responsibilities to the CDD entrants?

2. What changes, if any, have there been in your responsibilities to CDD graduates in the past two years?

3. How often do you see the CDD students?
this year?_____ last year?_____

4. What prompts these meetings?

5. What kinds of problems do you discuss with them?

   What kinds of problems do they discuss with you?

6. In what ways, if any, are these students different from non CDD college students?

7. What differences have you found between the CDD I and II groups?

8. In what way has the CDD Program prepared these students for college work?

9. In what ways has the Program not prepared them for college work?

10. List below your <u>recommendations</u> for improving the CDD Program to help these students in college. If necessary, please use other side.

Please return questionnaire to Dr. Edward Frankel at Herbert H. Lehman College
Bedford Park Boulevard West Bronx, New York 10468

Office of Testing and Research
Brooklyn College
of The City University
of New York
Brooklyn, New York 11210
Telephone: (212) 780-5178

INTERVIEW GUIDELINES

CDD Personnel

June 18, 1970

Dr. Leonard West
Division of Teacher Education
33 West 42nd Street
New York, N.Y.

Dear Leonard,

Supplementing my letter to you of June 15th, I am sending you for each of the classifications listed in my letter the nature of the subject matter to be inquired into during interviews.

Principals or acting principals of all five CDD schools

Their evaluation of the CDD Program as a whole.
Their evaluation of CDD admission procedures.
Their opinion of the purposes of these admission procedures, in terms of choosing the most suitable students for this program.
Their evaluation of specific aspects of the program such as small classes, double sessions, and counseling aspects.
Their perception of the role of the school principal in CDD.
The role of the central office of the Board of Education in CDD, the adequacy of this role and ways in which it might be more effective.
The role of the CUNY in the CDD Program, the adequacy of this role and ways in which it might be more effective.

The CDD coordinators in each of these schools

A factual statement and description of the CDD Program in this particular school.
A description and evaluation of various features of the program such as admission procedures, small classes, double sessions, counseling aspects, college tutors, college curriculum, resource people, etc.
Attitude and opinion of CDD students towards CDD students and towards the CDD Program.
Role of the Board of Education in CDD, the adequacy of this role and ways in which it might be more effective.
Explanations of reasons causing drop-outs.
Community and parent reaction to the CDD Program.
The role of CUNY in the CDD Program, the adequacy of this role and ways in which it might be more effective.

A sample of teachers of CDD classes in each of these schools

General impressions and evaluation of CDD benefits and drawbacks of features such as admission procedures, small classes, double sessions, counseling aspects, college tutors, resource people.
The role of the Board of Education in CDD, the adequacy of this role and ways in which it might be more effective.
The role of CUNY in the CDD Program, the adequacy of this role and ways in which it might be more effective.

A sample of first, second, and third year students in each of these schools

The degree of general satisfaction or lack of it in the CDD Program admission procedures - what created interest in becoming part of the program.
Further plans relating to college.
Description and evaluation of contact with counselors, tutors, non-CDD students in same high school, other CDD students.

A sample of "tutors" in each of these schools

A description and evaluation of the role played by tutors in the CDD Program.
A description of the last several sessions with CDD students.

A sample of CDD dropouts

Causes of dropout, to ascertain whether they were related to any feature of the CDD Program. If so, extensive probe into just how these factors operate.

A sample of CDD graduates presently enrolled at a college.

Evaluation and description of the interviewees' experiences with the CDD Program.
The degree of general satisfaction or lack of it in the CDD Program admission procedures - what created interest in becoming part of the program.
Further plans relating to college.
Description and evaluation of contact with counselors, tutors, non-CDD students in same high school, other CDD students.

A sample of parents of children presently enrolled in CDD at one of the above high schools

Probing for degree of opinion concerning the operation of the CDD Program and its purposes.
Attitude toward admission procedures, operation of program, prospects of their child's college attendance, and their child's progress in the CDD Program.

A sample of parents of children enrolled in the CDD Program who have dropped out of high school

Causes of dropout, to ascertain whether they were related to any feature of the CDD Program. If so, extensive probe into just how these factors operate.
Probing for degree of opinion concerning the operation of the CDD Program and its purposes.
Attitude toward admission procedures, operation of program, prospects of their child's college attendance, and their child's progress in the CDD Program.

A sample of parents of children enrolled in the CDD Program who have been graduated from high school and are presently enrolled in a college

Probing for degree of opinion concerning the operation of the CDD Program and its purposes.
Attitude toward admission procedures, operation of program, prospects of their child's college attendance, and their child's progress in the CDD Program.

A sample of parents of children enrolled in the CDD who have been graduated from high school and are not presently enrolled in a college

Probing for degree of opinion concerning the operation of the CDD Program and its purposes.
Attitude toward admission procedures, operation of program, prospects of their child's college attendance, and their child's progress in the CDD Program.

A number of persons associated with the City University CDD office

A description and evaluation of the role played in the CDD Program by CUNY.
A description and evaluation of the role played by the New York City Board of Education personnel in the CDD Program.

The present and, if possible, the former Coordinator of CDD for the Board of Education

A description and evaluation of the role played by the New York City Board of Education personnel in the CDD Program.
A description and evaluation of the role played by CUNY in the CDD Program.

I hope that the above will furnish you with the additional information you wanted and I am very sorry that I will not be available to help you in any problems you have with my kind of description until I return on the 6th. It may perhaps help you if I make a statement that the reason I included counseling among my questions is that despite of my complete awareness of

the fact that this does not fall within the scope of my share of the evaluation, I have found that it is impossible to talk to any of the people connected with this program without this matter coming up and it really saves time and effort to recognize this fact and get it over with by asking questions about it, even though the answers will not be used in the evaluation.

Sincerely yours,

Sam Duker (HF)

Sam Duker
Professor of Education

SD:hf

CDD High School Interview Outline

Each of the salient aspects of the CDD Program listed below should be discussed with all respondents, with questions phrased from the viewpoint of whether the interviewer's role is that of tutor, teacher, or student. Wherever possible, opinions and feelings about the program should be probed for underlying causes and/or examples. It is important to know why the tutor, teacher, or student holds his views about the program.

Please note that the functions of guidance and counseling will be evaluated separately and therefore should not be dealt with in these interviews.

1. Admission into Program:

   Ask all respondents to evaluate the selection procedures.

   For what reasons do you think students are admitted to this program? Do you think the program is appropriate or beneficial to those selected?

   Ask respondents if they think that those persons who can most benefit from the program are the ones being selected.

2. 'School Within a School' Feature:

   Ask all respondents for their evaluation of this aspect of the program. Do you feel it to be beneficial? Why or why not?

   Does it seem to be resented by non-CDD students; do CDD students appear to be isolated from other students?

3. Small Classes:

   Ask respondents to evaluate the small class situation in terms of their particular role and in comparison with non-CDD or larger classes.

4. Double Sessions:

   Ask respondents to evaluate double classes from their particular point of view and in terms of comparison with regular single classes.

   How do they differ, in content, from two separate classes? What occurs during the second part of a double session?

5. Teacher, Tutor, and Student Functions:

   Ask respondents what they see as their specific function(s) in the program; obtain information about what they actually do in the program.

   Ask students to evaluate tutor and teacher functions, teachers to evaluate

their functions, etc.

e.g.: How often does student meet with tutor? What happens during a tutoring session? Do you think that tutoring has been beneficial? Why or why not? Has it helped motivational (non-academic) as well as academic achievement?

6. Future Plans (for Students):

Has the program influenced your plans for college? Have your plans changed during the course of the program? What are your plans now?

College Discovery and Development Project Evaluation

Interview Schedule

High School Development Center

School_____ Date_____

Data provided by_____

Interviewer_____

The CDD Program is now in its fifth year. Its purpose is to identify disadvantaged youths with unrealized academic potentials, improve their motivations and achievements in school and to develop their expectations for college and their chances for success in college. The purpose of this study is to determine the extent to which these objectives have been realized over the past five years.

The questions which follow attempt to assess the factors which have helped or hindered the implementation of the various aspects of the Program since 1965.

I. Organization of the Center

A. Personnel related to Program

1. Principal, administrative assistant, center coordinator, secretary, guidance counselors, teachers, tutors, curriculum consultants (college faculty), and psychologists and social workers (part time) -

a) What changes have there been in the personnel assigned to the Program since 1965?
b) Why were these changes made? Who made them?
c) How have these changes helped or hindered the implementation and operation of the Program?
d) How adequate is the staffing now as compared to the past?

II. Operation of the Center

Indicate the changes that have taken place in Center since 1965 and also how the changes have affected the operation of the Program.

1. Stated objectives of the Program
2. Organization of the Center
3. Physical facilities in which Center operated
4. Relationship with host school
5. Relationship with Board of Education
6. Relationship with Board of Higher Education
7. Relationship with Office of Research and Evaluation of CUNY
8. Relationship with parents, community and school board
9. Tutorial program
10. Cultural program
11. Curriculum
12. Guidance program
13. Class size and programs for students
14. Teacher selection, supervision, and evaluation
15. Criteria and method of selecting CDD students
16. Follow up of students
17. Scope and direction of research
18. Others: [illegible], summer program, stipend.

III. Objectives of the Program

To what extent have each of the objectives of the Program been realized over the past five years?

Indicate, in rank order, the factors in your Center which have helped and hindered the implementation and operation of the Program.

Helped	Hindered
1.	1.
2.	2.
3.	3.
4.	4.

Comments:

IV. CDD Students

A. Selection of Students

1. When did you serve on the Selection Committee?
2. Were there any changes in the way in which criteria were applied as a selective screen since 1965?
   If yes, explain both the nature and the reasons for the changes.
3. What factors helped and/or hindered the functioning of the Selection Committee?
4. To what extent did the nominees elected by the Center meet the selection criteria since 1965?

B. Nomination

1. When did you nominate candidates for the Program?
2. Describe the manner by which you selected nominees?
3. What changes, if any, have there been in the nomination methods since 1965?
4. What factors helped and/or hindered the nomination process?

C. Candidates

1. Did you participate in the selection of candidates? If yes, when?
2. Has there been any changes in the method of selecting candidates since 1965? If yes, what was the nature of the changes? Why were changes instituted? What was the effect on the selection of candidates?
3. What are the strengths and weaknesses of the procedure?
4. What factors helped and/or hindered the procedure for selecting candidates?
5. Comments:

Prepared by Edward Frankel
April 27, 1970

CDD Evaluation: High School Classroom Observations

School _____ Name of Teacher _____

Subject _____ CDD Class _____ Non-CDD Class _____

Grade _____ No. of Students Present _____

1. For a 15-minute period (not during the performance of written seat work) please observe how often the following occurred. Indicate by tallies (i.e. 𝍸 11) in the appropriate column:

	Factual or Memory Type	Other Types
Questions asked by teacher:		
Questions asked by students:		
Answer to questions by teacher:		
Answer to questions by students:		

2. Please mark (i.e.——*——) that point on each of the following rating scales which best describes the atmosphere in this classroom:

Discipline

extremely strict _____ extremely permissive

Democratic Atmosphere

completely teacher-dominated _____ completely student dominated

Teacher-Student Relations

extremely friendly _____ extremely hostile

Student-Student Relations

extremely cooperative, friendly _____ extremely competitive, hostile

Students' Interest in Subject

fascinated _____ utterly bored

Teacher's Interest in Subject

fascinated _____ utterly bored

Non-Teaching Activity

primarily individual work _____ primarily group interaction, very little individual work

Teaching Method

primarily discussion involving students _____ primarily lecture

Out-of-Class Study

no evidence of study outside the classroom _____ evidence of a great deal of study outside the classroom

A PARTIAL EVALUATION OF THE COLLEGE DISCOVERY AND DEVELOPMENT TUTORIAL PROGRAM, 1969-70

By

Kay Murray

Bureau of Educational Research
Board of Education

November 1970

Acknowledgments

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A Partial Evaluation of the College Discovery and Development Tutorial Program, 1969-70

One of the special features of the College Discovery and Development Program is a tutorial service provided by college students. The Report of the Planning Committee on the CDD Program (Report No. 27), sets forth the general guidelines and recommended procedures for the tutoring program. There are several noteworthy features of these original guidelines.

1. Tutoring should be an integral phase of the curriculum and, time for tutoring should be allocated on a regularly scheduled basis during school and after the school day.
2. Adequate space should be available for individual and group tutoring.
3. College faculty members should coordinate selection, recruitment, preliminary orientation, and assignment.
4. High School faculty members should make assignments and provide orientation and supervision.
5. Close cooperation should be established between the high school CDD personnel and the colleges.
6. Tutoring may be devoted to, but not limited to, class assignment and remedial work. Emphasis should be on learning as understanding.
7. Tutors may be students of community colleges as well as four-year colleges.
8. It may be possible for some tutors to receive college credit for tutoring.
9. Tutors may be paid if they qualify under the provisions of the Federal Economic Opportunity Act of 1964.
10. The relationship between tutor and tutee should be informal; they should get to know one another.
11. Tutors should be able to serve as role models for aspiration and achievement.
12. Tutors should assist in the variety of ways to individualize and enrich instruction.

Under the College Work-Study Program administered by the United States Office of Economic Opportunity, a grant was secured allowing eligible college students from The City University of New York to be assigned as tutors in the five College Discovery and Development Centers. College students were first employed as tutors in the CDD Program during the 1965-1966 school year. The tutors were "selected primarily on the basis of economic need, preparation in the subject area, and in the Program" (CDD

Report No. 25). The three reports on the tutoring services, written by Pearl Brod and Mildred Kaye, the first coordinators of the tutoring program, describe in detail the tutors and the operation of the program for the years 1966-1967, 1967-1968, and 1968-1969 (CDD Report Nos. 2, 16, 17).

General Description of the Program

The description of the tutoring program given in CDD Report No. 17 (pp. 1-2) for 1968-1969 is applicable to 1969-1970 also.

> The tutorial program featured the employment of full-time undergraduate college students as tutors for tenth, eleventh, and twelfth grade students whose academic achievement was not up to their potential. The tutors were paid $2.50 per hour for a maximum of 15 hours per week. Tutoring took place during regular school hours in school classrooms, available offices, the library, and sometimes the lunch room, wherever adequate space could be found.
>
> Each student was assigned to a specific tutor for each subject in which he needed assistance. He saw the tutor from one to three times a week, depending on the student's need for assistance. In a few instances, where student needs were similar, a single tutor met with small groups of two or three.
>
> Tutors were recruited with the aid of college placement officers, CUNY education department staff members, and tutors who had served in the program during previous years. The initial screening was provided at the local college level, then by the CDD tutor coordinator. Final decisions were left to the individual CDD coordinator at each CDD center since he best knew the needs of his students.
>
> The college students were selected on the basis of a satisfactory academic standing in college, their own economic need, and their willingness to commit themselves to the needs of the CDD student.

Evaluation Objectives

One of the objectives of the evaluation of the tutoring program was to provide a description of the tutors, of the program, and of reactions to the program. An attempt was also made to compare the operation of the tutoring program to that which was originally envisioned for it.

Procedures

Three instruments served as the main sources of data on tutors: The Tutor Application Form, the Tutor Questionnaire and the Tutor Log (Appendix, pp. 40-44)

A description of the tutors' educational and financial status was obtained from the Tutor Application Form. Responses made by students hired

as tutors to items on this form are summarized in frequency tables.

A description of the tutoring program was obtained from the Tutor Questionnaire. Designed originally by Dr. Mildred Kaye, the Coordinator of the Tutoring Program, for use in her description of activity during 1967-1968, this form was revised in consultation with the writer. In an attempt to encourage responding, the Tutor Questionnaire was mailed to tutors with their May paycheck. Students were instructed to return the completed questionnaire prior to the issuance of their next paycheck. (The mailing of the June paycheck could not, however, be affected in any way by whether tutors did or did not return questionnaires.) As additional inducement, tutors were told that time spent completing the questionnaire was considered part of their tutoring activities and should be reported on their June timesheet. The questionnaire requested general information about the activities of the tutors, the mechanics of the program, and reactions to the tutoring services. Frequency tables were prepared for data from the Tutor Questionnaire.

Tutors also submitted a monthly log of their sessions with tutees. They recorded the names of the students with whom they met, the day and time of meeting, the school subjects in which the students were tutored, the objectives of the tutoring, and the materials used. It was not possible to process all tutor logs for the present report. However, a 20 per cent sample of logs from each CDD Center for May, the month considered least atypical, was selected and analyzed to assess tutoring activities. It is anticipated that a separate description of the tutoring services for 1969-1970 will be issued by the College Discovery and Development Office of The City University in the fall of 1970.

In addition to questionnaire data, information about the tutoring program was obtained from coordinators of the CDD centers. These interview data are presented as verbal summaries (Appendix pp.) and are not analyzed quantitatively.

Findings

Findings consist of description of tutors based on the Tutor Application Form, description of the tutoring program based on the Tutor Questionnaire and the tutor logs, and interviews with CDD center coordinators.

Description of Tutors

There were 183 college students who tutored in the CDD Program during 1969-1970 and for whom a completed Tutor Application Form was available.[1] The distribution of tutors by CDD center is given in Table 1, which shows that the 183 tutors were approximately evenly distributed among the five centers.

Table 1

Distribution of Tutors, 1969-70, by Center

Center	Number	Percent
I	39	21.3
II	31	16.9
III	41	22.4
IV	32	17.5
V	40	21.9
Total	183	100.0

Six types of information were tabulated from the Tutor Application Form: sex, college status (year, college attended, credit load, and major), and family income. Tables 2 through 7 summarize findings for these items for the five centers combined. Data by Center are presented in Appendix Tables 28-33.

Sex

Table 2 indicates that 53.0 per cent of the total group of 183 tutors were men, and 47.0 per cent were women. Comparable proportions were found for the individual centers, except for Center II, where approximately two-thirds (67.7 per cent) of the tutors were men and one-third (32.3 per cent) were women.

---

[1] According to financial records, the actual number of college students who were paid as CDD tutors was 206. However, for twenty-three of these students, no application form was completed. Hiring of tutors by the local CDD center, rather than through the central headquarters, accounted for some of the missing forms.

Table 2

Sex of Tutors

Sex	Number	Percent
Male	97	53.0
Female	86	47.0
Total	183	100.0

Status in College

Table 3 shows that slightly more than half (53.6 per cent) of the 183 tutors were upper classmen (45 juniors and 53 seniors). The remainder were first or second year undergraduates. Center II had a higher proportion of lower classmen, particularly freshmen (41.9 per cent) than had other centers.

Table 3

Tutors' Year in College

Year	Number	Percent
Freshman	34	18.6
Sophomore	50	27.3
Junior	45	24.6
Senior	53	29.0
Total	183*	99.5

*Includes one student who did not indicate year in college.

According to Table 4 (p. 6) fifty per cent of the tutors attended the three largest units of The City University: The City College of New York, Brooklyn College, and Queens College. College students tended to tutor in CDD Centers located in the borough in which they attended college (and, generally, also lived). Two tutors attended colleges which are not units of The City University: Pratt Institute and Fordham University.

Table 4

College Affiliation of Tutors

CUNY Branch	Number	Percent
City College	35	19.2
Brooklyn College	29	15.8
Queens College	28	15.3
Richmond College	27	14.7
Hunter College	16	8.7
Bronx Community	13	7.1
Staten Island Community	13	7.1
Lehman	9	4.9
New York City Community	4	2.8
Other*	9	4.9
Total	183	100.0

*Includes three tutors from Queensborough Community College at Center IV; and one tutor each from New York Community College, Baruch College and Pratt Institute (Center II); and Fordham University and Manhattan Community College (Center III). One tutor did not indicate his college affiliation.

In general, a full-time college student is one who is enrolled for 12 or more credits. Table 5 indicates that fewer than ten per cent (8.2 per cent) of the tutors were not full-time students. When compared with figures for all centers combined, almost twice the proportion (15.6 per cent) of tutors at Center IV carried a load of 11 or fewer credits.

Table 5

College Credit Load of Tutors

Number of Credits	Number	Percent
6-11	15	8.2
12-15	109	59.6
16-18	51	27.9
18+	7	3.8
Total	183*	99.5

*Includes 1 tutor who did not indicate number of credits.

All of the liberal arts disciplines were represented as courses of study in which tutors majored. According to Table 6, the various sciences and English (including speech) accounted for approximately one-half (51.3 per cent) of the majors listed by tutors. Professional and preprofessional majors, such as engineering, education, accounting and nursing were also listed by 29 or 15.9 per cent of the 183 tutors. Results for individual centers varied considerably.

Table 6

Tutors' Major Area of College Study

College Major	Number	Percent
Social and Political Sciences	40	21.8
Sciences	33	18.0
English/Speech	21	11.5
Foreign Languages	16	8.7
Mathematics	16	8.7
Fine Arts	10	5.5
History	6	3.3
Other	29	15.9
Information not available	12	6.6
Total	183	100.0

Family Income

According to the U.S. Office of Economic Opportunity, $40 per family member is designated as the maximum allowable weekly income. Table 7 (p. 8) indicates that in one-quarter (24.6 per cent) of the tutors' families, the weekly income per family member was $41 or more. At Center IV one-third (34.3 per cent) of the tutors were from families whose per capita weekly income exceeded the Federal poverty level.

Description of the Tutoring Program

One indication of the scope of the tutoring program is the number of hours during which CDD students were tutored.[2] These data are presented

[2]Other financial data related to the scope of the tutorial program

in Table 8 by month and in Table 9 (p. 9) by CDD center for the 1969-1970 school year.

Table 7

Weekly Income per Member of Tutors' Family

Income	Number	Percent
$20 or less	28	15.3
$21-$40	80	43.7
$41+	45	24.6
No response	30	16.4
Total	183	100.0

Table 8

Monthly Distribution of Tutor Hours, 1969-70

Month	Number	Percent of Annual Total
September	1423½	3.6
October	3661	9.4
November	2906	7.4
December	5139½	13.1
January	2736	7.0
February	2972	7.6
March	4841½	12.4
April	4670	11.9
May	4854½	12.4
June	5962	15.2
Total	39166	100.0

Note. A tutor hour is an hour in which one student receives one hour's tutoring, either individually or in a small group session.

for 1969-70 were not available for this report.

The data for Tables 8 and 9 were obtained from financial records of the CDD office of The City University (CUNY). They represent the number of hours for which tutors were paid for all services rendered. According to these records, the total number of tutor hours was 39,166, with December and the months during the spring accounting for the greatest amount of tutoring activity. In 1967-68, the corresponding figure was 23,000. In 1968-69, when there was a delay in starting school because of an extended teacher's strike, the figure was 13,190.

Table 9 indicates that the lowest proportion (13.1 per cent) of the total hours for which tutors were paid occured at Center II, the greatest (30.0 per cent) occurred at Center V. There are no published figures from previous years which permit comparison with those in Table 9.

Table 9

Distribution of Tutor Hours, by Center, 1969-70

Center	Number	Percent of Annual Total
I	9209	23.5
II	5145	13.1
III	6609	16.9
IV	6439	16.5
V	11764	30.0
Total	39166	100.0

Note. See note for Table 8.

Tutor Questionnaire Results

The Tutor Questionnaire, a sample of tutor logs for a single month, and interview with coordinators of the CDD centers were the sources of information about the activities which comprised the tutoring program.

Tables 10 through 23 are based on the responses of the 93 tutors who completed questionnaires, a response rate of 50.8 per cent for the 183 tutors. Table 10 indicates the number and per cent of tutors from each CDD center who responded. The findings for the questionnaire consist of the numbers of students tutored, time and location of tutoring sessions,

types of tutoring activities, tutoring materials, tutors' knowledge of the CDD curriculum, supervision, how helpful to students tutors felt they had been, and tutors' sources of information about the program.

Table 10

Distribution of Tutor Questionnaire Responses By Center, 1969-70

Center	Number	Percent
I	25	26.9
II	11	11.8
III	20	21.5
IV	17	18.3
V	20	21.5
Total	93	100.0

Students Who Were Tutored. Table 11 (p. 11) indicates that approximately four-fifths (81.5 percent) of the tutoring involved a tutor meeting with one or two tutees at a time. Centers I and III accounted for all except one of the groups of three or more students who were tutored together. Regular attendance by tutees was reported to have occurred at approximately the same rate (60 to 63 percent) at each of the centers except Center III where 80 percent (16 of the 20 tutors) reported that tutees attended regularly.

Figures for regularity of attendance are given in Table 12 (p. 11).

Time and Location of Tutoring Sessions. Tutors were permitted to indicate more than one response for the times during the day when they tutored and the locations where tutoring sessions were held. According to Table 13 (p. 12) tutoring occurred at the following times (in descending order of frequency): study periods, class periods (usually the second half of double period classes), lunch periods, before or after school hours, and homeroom or official class period.. Although approximately one-half (54.5 percent) of the responses listed class periods or study periods as the most popular tutoring times, before and after school hours and lunch periods were particularly popular tutor times at Centers III and V, respectively.

Table 11

Size of CDD Tutorial Groups

(Mean Number of CDD Students Tutored per Session)

Center	One	Two	Three	Four or More	Total
I	13	5	2	4	24
II	6	3	0	1	10
III	1	10	8	2	21
IV	11	6	0	0	17
V	17	3	0	0	20
Total	48	27	10	7	92*
Percent	52.2	29.3	10.9	7.6	100.0

*Excludes one nonrespondent.

Table 12

Number of Tutors Who Stated CDD Students Attended Sessions Regularly

Center	Attended Regularly	Did Not Attend Regularly	Total
I	18	7	25
II	8	3	11
III	16	4	20
IV	13	4	17
V	12	8	20
Total	67	26	93
Percent	72.1	27.9	100.0

Tutoring took place more frequently in classrooms (both when empty and during part of regularly scheduled classes) and in the school library than in any other locations. Table 14 (p. 12) indicates two exceptions. The auditorium at Center IV and the CDD office at Center V were frequently used as locations for tutoring.

Table 13

Time of Day Tutoring Sessions Were Conducted

Center	Class Periods	Study Periods	Lunch Periods	Before or After School Hours	Home Room Periods
I	18	19	11	5	11
II	6	5	2	2	2
III	16	9	5	13	0
IV	4	15	8	5	0
V	5	12	16	5	6
Total*	49	60	42	30	19
Percent	24.5	30.0	21.0	15.0	9.5

*Due to multiple responding, total is greater than the number of respondents.

Table 14

Location of Tutoring Sessions

Location	Center					Total	
	I	II	III	IV	V	No.	%
Library	25	0	11	0	1	37	21.1
Cafeteria	2	1	2	0	0	5	2.9
Empty Classroom	4	4	11	17	17	53	30.3
CDD Office	2	3	2	1	11	19	10.9
Auditorium	4	0	0	16	0	20	11.4
Scheduled Class	14	8	16	0	0	38	21.7
Portable Classroom	0	0	0	0	3	3	1.7
Total						195*	100.0

*See footnote to Table 13.

Tutoring Activities. One of the most important questions regarding the tutoring program concerns the objectives of the tutoring sessions. According to Table 15 (p. 13) the tutoring time during 1969-70 was divided fairly evenly among studying for examinations, completing homework, and reviewing classwork. "Introducing new work" was the category that was least often

checked by tutors from every center as the activity to which tutoring sessions were usually devoted.

Table 15

Objectives of Tutoring Sessions

Center	Helping with Homework	Studying for Examinations	Reviewing Classwork	Introducing New Work
I	25	24	19	5
II	9	10	11	3
III	19	19	17	4
IV	14	17	16	9
V	18	20	20	2
Total	85	90	83	23
Percent	30.2	31.9	29.4	8.5

Note. The footnote of Table 13 applies here.

Tutoring of students in subject areas was not the only activity for which college students were paid as CDD tutors. It is evident from Table 16 (p. 14) that approximately one-third (31.3 percent) of the tutors engaged in activities other than tutoring students. The most frequently indicated nontutoring activity was accompanying CDD students on cultural trips.

Tutoring Materials. The tutoring of students was greatly facilitated by the variety of materials used during the tutoring sessions. With the exception of audio-visual aids, most of the standard curricular instructional materials were checked as having been used by tutors. It is evident from Table 17 (p. 14) that no one type of material was more popular than another, excepting tutor-prepared materials, maps and newspapers, which were least frequently used.

Table 18 (p. 15) indicates that two-thirds (67.8 percent) of the tutors had a copy of the textbook or other materials which were used in the tutees' regularly scheduled class periods.

Table 16

Activities Other Than Tutoring Engaged in with Tutees

Center	None	Made Home Visits	Went on Trips	Attended School Clubs
I	11	3	1	2
II	9	1	2	0
III	19	0	1	0
IV	17	0	0	0
V	3	0	17	0
Total	59	4	21	2
Percent	68.7	4.7	24.4	2.2

Table 17

Materials Used During Tutoring Sessions

Type	Center					Total	
	I	II	III	IV	V	No.	%
Textbooks	25	9	20	17	15	86	18.6
Review books	24	9	16	16	20	85	18.4
Class notes	16	10	18	15	18	77	16.7
Blackboard	3	7	7	14	16	47	10.1
Old tests	16	6	10	14	13	59	12.8
Homework	16	10	14	15	14	69	14.9
Material prepared by tutor	4	6	2	9	13	34	7.3
Maps and newspapers	2	0	0	1	3	6	1.2
Total							100.0

Table 18

Number of Tutors Who Had Copies of Textbooks

Center	Yes	No	Total
I	10	15	25
II	6	5	11
III	14	6	20
IV	14	3	17
V	19	1	20
Total	63	30	93
Percent	67.8	32.2	100.0

Tutors' Knowledge of CDD Curriculum. To determine how knowledgeable tutors were about the curriculum and instructional program of CDD classes, two questions were asked: "What contact did you have with the classroom teachers?" and "Were you informed about what was being taught in the classroom?" Results are displayed in Table 19.

Table 19

Extent of Tutor Contact with Classroom Teachers

Center	None	Some	A Great Deal	Total
I	7	8	4	19
II	8	3	0	11
III	0	16	4	20
IV	11	6	0	17
V	14	6	0	20
Total	40	39	8	87*
Percent	45.9	44.8	9.3	100.0

*Excludes six nonrespondents.

Table 19 shows shows that 45.9 percent of the respondents indicated they had had no contact with classroom teachers; 44.8 percent checked "some" contact. Only 8 (9.3 percent) of the respondents considered

themselves as having had "a great deal" of contact with teachers.

Table 20

Number of Tutors Who Were Informed
About the Nature of Regular Lessons by Classroom Teachers

Center	Informed	Not Informed	Total
I	22	3	25
II	11	0	11
III	18	2	20
IV	14	3	17
V	12	3	15
Total	77	11	88*
Percent	87.5	12.5	100.0

*Excludes five nonrespondents.

Of the 88 tutors who indicated whether they were informed about what was being taught in the classroom (Table 20), 77 (87.5 percent) said they had been so informed. This number includes tutors whose knowledge was acquired at first-hand in the course of tutoring during regularly scheduled classes. Although tutors considered themselves well-informed about the program, their infrequent contact with classroom teachers suggests that tutees may have been tutors' primary source of information about the curriculum.

Supervision. Tutors were asked to list the person who supervised them. The person most frequently mentioned was the coordinator of the CDD center. From Table 21 (p. 17), it appears that supervision was considered to be "adequate" by 84.3 percent of the tutors who responded and "inadequate" by 13.5 percent of the respondents. Of the small number (11) of tutors from Center II who responded, 5 considered their supervision inadequate. In each of the other centers no more than two respondents were critical of their supervision.

Helpfulness of Tutors. The tutors were divided exactly in half in their opinions as to whether they were able to help students to a great extent or to a limited extent Table 22 (p. 17). None of the respondents felt he was not able to help students at all.

Table 21

Adequacy of Supervision Reported by Tutors

Center	Adequate	Inadequate	Total
I	23	2	25
II	6	5	11
III	7	2	9
IV	16	1	17
V	18	1	19
Total	70	11	81*
Percent	86.4	13.6	100.0

*Excludes 10 nonrespondents to the questionnaire plus 2 others who omitted this question.

Table 22

Extent to Which Tutors Considered Themselves Able to Help Students

Center	Great	Limited	Total
I	18	8	26
II	3	8	11
III	9	2	11
IV	3	14	17
V	10	11	21
Total	43	43	86*
Percent	50.0	50.0	100.0

*Excludes 7 nonrespondents to this item.

Source of Information about CDD Program. According to Table 23, approximately one-half (53.9 percent) of the tutors learned of the CDD Tutorial Program from another CDD tutor. Another 23.7 percent were informed of the program by their college placement office. For the twelve (12.2 percent) of the tutors, who had themselves been CDD students in high school, knowledge about the tutoring program was acquired at first-hand.

Table 23

Source of Tutors' Information About the CDD Tutorial Program

Source	Center					Total	
	I	II	III	IV	V	No.	%
Tutor was CDD student	7	1	1	1	2	12	12.2
From former CDD student	1	0	2	0	1	4	4.5
From CDD tutor	11	10	11	7	11	50	53.9
From college placement office	5	0	1	10	6	22	23.7
From college education department	1	0	1	0	1	3	3.3
Other	0	0	2	0	0	2	2.4
Total							100.0

Results of Tutor Logs

As mentioned above, it was not possible to analyze the logs (monthly records of tutoring activities) submitted by the 183 tutors for all ten months of the school year. (See Appendix p. 56, for a copy of the tutor log.) However, since valuable information about the mechanics of the tutorial program was contained in the logs, the decision was made to analyze, in detail, a random sample of 20 percent of the logs for each CDD Center for a "typical" month. The month of May was suggested by the Project Director as one free from holidays and other interruptions. There were, however, in addition to the Memorial Day holiday, two days when schools were closed and sporadic student strikes in response to the national political situation. Nevertheless, May appeared to be less atypical than any other month. Table 24 (p. 19) presents the total number of logs submitted in each school for May and the number which represents a 20 percent sample drawn at random from the total number for each school. The discussion of the problems encountered in analyzing logs is followed by presentation of findings on frequency of use of the tutoring service and variety of activities engaged in by tutors.

Problems Encountered in Analyzing Tutor Logs

Although tutors in each CDD center used the same form, there was much

variation in detail and in style. For example, tutors in one school apparently had been specifically instructed to list each tutoring session on a different line. For tutors from that center, several pages were often required to record tutoring activity for a single week. Such detail considerably facilitated the analysis of the exact amount of time devoted to each type of tutoring activity and each subject tutored. In another school there appeared to have been no standard procedure for completing logs. For one student a row represented his record of tutoring for the week. Another student grouped together dates on which tutoring had occurred at the same time periods. A third student who tutored in the same school listed all the dates in one cell and then itemized the tutoring activity by class period, which made it impossible to determine which periods he had tutored on which days without assuming that tutoring occurred at the same times each day. There were still other variations in itemizing dates and hours of tutoring which precluded precise analysis of these aspects of the program.

Table 24
Distribution of Tutor Logs (May 1970), by Center
(Total and 20 Percent Sample)

Center	Total	Sample	% of Total
I	35	7	20.0
II	17	4	23.5
III	22	4	18.2
IV	20	4	20.0
V	25	4	20.2
Total	119	24	20.2

The number of students who were tutored during a single session and the subject areas in which tutoring occurred were additional items responded to with great variability. Reponses such as "all available," "classroom," "library," and "various students" were listed under the heading "students." The inability to determine the exact number of students (whether tutored individually or in groups) resulted in lower figures

for total number of students tutored. CDD Center I was a case in point Table 25 (p. 21). In a few instances it was difficult to tell whether a tutee whose name was listed had actually been present during the tutoring period.

On several logs the tutor did not itemize the periods of time when he tutored, while at the same time listing more than one subject in which tutoring occurred. In such cases the decision was arbitrarily made that time would be divided evenly among the subject areas. It is possible that tutoring listed as having occurred in English and Spanish for four hours was actually three hours of one and one of the other. In the absence of additional information, such findings were interpreted as two hours of tutoring in each subject area.

The log column headed "Materials Used" varied considerably in specificity, with "notes" (unspecified) and "June 1967 Regents" representing two of the extreme responses. Likewise, statements which explained the "Objectives of Tutoring" ranged from precision to ambiguity (or omission). An example of the former is "teach how to analyze (math) problems" or "reviewed solving equations with graphs", where process or operations, as well as content, were indicated. At the other extreme, "review" or "homework" provided information neither about the content of the material covered nor about the processes used.

Estimating population results based on a 20 percent random sample always involves certain risks. When the data are as lacking in specificity and comprehensiveness and the entries are of reliability as questionable as were the sample of logs for the month of May 1970, generalizing findings to the total group should be attempted with extreme caution. Two types of information were summarized from this sample of logs: the frequency of usage of tutoring services and the variety of activities engaged in by tutors.

Frequency of Usage of Tutoring Service. The frequency with which tutoring services were used was estimated by determining the percentage of CDD students who were tutored. Table 25 presents the enrollment for each CDD center as of June 1970 (the date for which enrollment figures were available which was closest to May, 1970), the number of different students who were tutored (estimated from the sample of tutor logs), and the percentage which the estimated number of different tutees was of the CDD enrollment.

Table 25

Percent of CDD Enrollment (June 1970) Who Were Tutored

Center	CDD Enrollment	Number Tutored		Percent Tutored
		Sample	Estim. Total	
I	248	5*	25	10.1
II	242	12	54	22.3
III	226	18	99	43.8
IV	214	26	130	60.7
V	224	21	105	46.9
Total	1154	82	413	35.8

*For Center I, 5 is a considerable underestimate. On several occasions, tutors listed unidentifiable groups ("any available students"), thus making it impossible to estimate the number of different tutees or the total number of tutor-tutee contacts.

The data of Table 25 indicate that the estimated number of CDD students was about one-third (35 percent) of the total enrollment and that Center IV had the highest percentage of CDD students tutored.[3]

The ratio of the number of hours of tutoring to the number of students enrolled in the CDD program provided another indication of the frequency of usage of tutoring services. To compute this ratio, sampling techniques were not required, as the exact number of tutor hours (Table 8, p. 8) was available for each month. During June 1970 there were 5,962 hours in which, according to the definition of "tutor hour," one student received one hour's tutoring either individually or in a small group session. According to CDD Program statistics, there were 1,154 students

[3] Caution should be exercised in making inferences based on data in Tables 25-27. Figures for tutor hours are estimates based on raw data which were imprecise and difficult to interpret. Figures for the total population in previous years and personnel involved in the tutoring program during 1969-70 both indicate that a much greater proportion of CDD students than estimated in Tables 25-27 was actually tutored.

enrolled in the five CDD centers during the same period. On the average, 5 hours of tutoring were available during the month of June 1970 to each CDD student. Comparable figures for the individual CDD centers were not readily available.

Tutor Activities. Four different types of activities were listed by tutors on the logs: tutoring of students in subject areas, clerical work performed in the CDD office, cultural field trips scheduled as part of the CDD program, and responding to the Tutor Questionnaire. According to Table 26 (p. 23) four-fifths (79.8 percent) of the hours for which tutors were paid were devoted to tutoring students, 16.4 percent to clerical work, and less than 4 percent to accompanying students on field trips and completing the Tutor Questionnaire.

The distribution of tutoring hours devoted to the various subject areas is displayed in Table 27 (p. 23). Half the hours (49.6 percent) were devoted to mathematics, and almost one-fourth (24.2 percent) to science (biology, chemistry, earth science). Foreign languages (Spanish and French), English, and history or economics accounted, respectively, for 12.9 percent, 9.8 percent, and 3.5 percent of the tutoring hours.

Comparison of Tables 26 and 27 shows that Center V had the largest estimated number of tutor hours (955 or 24.0 percent) but the lowest estimated number of hours (240 or 7.7 percent) during which school subjects were tutored. A greater proportion of tutors' services were devoted to nontutoring activity, such as clerical work and field trips, at Center V than at any of the other centers. In comparison with the other centers Center IV had fewer estimated total tutoring hours (14.4 percent), as well as fewer estimated total school subject hours tutored (18.2 percent). Less tutoring of all kinds was provided at Center IV than at other centers. This finding is not entirely consistent with the indication in Table 25 that at Center IV a greater estimated proportion of CDD students (60.7 percent) was tutored than at any of the other centers.

Interviews with CDD Coordinators

The fourth source of information about the tutoring program was obtained from informal interviews with coordinators of the five CDD centers. Summaries of the interviews conducted at each center appear in

Table 26

Hours of Tutoring of Various Types, by Center, for May 1970

Type	20 Percent Sample					Estimated Total					
	Center					Center					All Ce
	I	II	III	IV	V	I	II	III	IV	V	No.
Tutoring students	174	163	138	114	48	870	733	759	570	240	3172
Clerical work	0	15	0	0	117	0	68	0	0	585	653
Field trips	0	0	0	0	19	0	0	0	0	95	95
Tutor Questionnaire	1	3	0	0	7	5	14	0	0	35	54
Total	175	181	138	114	191	875	815	759	570	955	3974
Percent						22.0	20.5	19.1	14.4	24.0	

Table 27

Hours of Subject Area Tutoring, by Center, for May 1970

Type	20 Percent Sample					Estimated Total						
	Center					Center					All Centers	
	I	II	III	IV	V	I	II	III	IV	V	No.	%
Mathematics	104	30	119	23	27	520	128	655	115	135	1553	46.9
English	48	4	0	4	6	240	17	0	20	30	307	9.8
Foreign Lang.	22	0	19	38	0	110	0	105	190	0	405	12.9
Hist./Econ.	0	0	0	17	5	0	0	0	85	25	110	3.5
Science	0	129	0	32	10	0	548	0	160	50	758	24.2
Total	174	163	138	114	48	870	693	760	570	240	3133	
Percent						27.8	22.1	24.2	18.2	7.7		100.0

the Appendix (pp. 40-44). Much of the information from coordinators agreed substantially with that obtained from the other sources. All five, or at least four, of the coordinators were in substantial agreement concerning several aspects of the program. The areas of agreement are summarized below.

Most tutors were reported as attending the unit of The City University nearest the center in which they tutored or as living in the neighborhood of the center. Mathematics was the subject in which students were weakest, and therefore was the area in which the need for tutoring was greatest. The sciences and foreign languages were also mentioned as subjects in which tutoring was in great demand. English was the major subject least frequently mentioned as having been tutored or for which additional tutors were required. Coordinators generally felt that more tutors as well as better qualified tutors were needed. Recruitment of competent tutors, particularly in mathematics, science and to a lesser degree French, was a serious problem. The overall assessment of the tutoring program by coordinators was favorable. The coordinators stressed the benefit which accrued to the tutee in terms of help with school work and the role model provided by the college students who were similar to the tutees in many respects.

Discussion and Recommendations

The primary purposes of the tutorial program were summarized in CDD Report No. 27 as: "The work of the college student tutors was intended not only to develop study skills and assist in remedial instruction, but also to function as role models. Very few disadvantaged boys and girls are related to or are in frequent contact with a college student. It was felt that the tutoring project could provide such contact in a desired setting."

The original guidelines for the tutorial program set forth by the Planning Committee indicate that many of the features which this committee envisioned have become realities. Interviews with coordinators suggest that tutoring was an integral phase of the CDD curriculum. In all of the centers students were regularly scheduled for tutoring even though all centers did not provide tutorial services at all times during the day or in all possible locations within the school (see interviews with coordinators, Appendix pp. 40-44 and Tables 13-14). With the exception of Center I, where lack of space for all phases of the CDD program was a serious problem,

coordinators reported that adequate facilities were provided for tutoring. As anticipated, the tutor logs and questionnaires (e.g., Table 15) indicated that tutoring was largely devoted to preparation for and review of examinations, homework, class assignments, and remedial work. It was not possible to determine from the log entries whether emphasis was, in fact, on "learning as understanding," a goal of the program developers.

Tutors overwhelmingly felt that they had been helpful to tutees (Table 22). Coordinators expressed the opinion that tutors had served as role models for aspirations and achievement for the tutees. With few exceptions, notably in record keeping, the variation among the centers in the administration of the tutorial program was, in the opinion of the evaluator, advantageous. Such variation reflected the flexibility required to make a centrally administrated program applicable to local needs.

As favorably as the tutorial program was viewed by coordinators and tutors, and as well implemented as it had become in the five years of its operation, there were defects which affected the quality of the tutoring services CDD students received. Problems which related to aspects of recruitment, training, and supervision, and suggested modifications in procedures, are presented in the discussion which follows.

Recruitment

According to four of the five coordinators, a major problem for the CDD Program was the recruitment of well-qualified tutors. One coordinator suggested that as a remedy for this problem the salary paid for tutoring be increased. By making tutoring, especially in mathematics and science, more competitive with other employment available to well-qualified college students, there would be greater incentive to tutor.

The evaluator suggests that additional inducement to tutors might result from granting college credit for tutoring. The original guidelines for the program proposed such a plan, which has been implemented to a limited extent by those colleges which accept tutoring as fulfilling certain requirements. Credit could be given for tutoring which satisfies requirements for a college course (e.g., a methods course or one concerned with school learning problems). To qualify, the tutoring assignment would have to be approved by the college faculty member responsible for the course. A definite link already exists between

the colleges of The City University and the high school CDD centers in the administration of the program, e.g., via the services of college consultants. Granting credit for tutoring of CDD students should substantially strengthen this association while at the same time improving the quality of tutoring.

The need for additional tutoring service, particularly severe in Centers II and IV, according to their coordinators, might have been alleviated by extending the maximum number of hours a college student could tutor beyond 15 a week. Permitting tutoring when school is closed (e.g., after school, on weekends, during vacation periods), a suggestion made by the tutor coordinator, might be worth exploring in order to increase tutoring services. Tutoring would thus be made available to tutor and tutee who were otherwise occupied during the school day. The advantages of such expansion of the tutoring program would have to be weighed against difficulties which might arise in administering and supervising extraparietal tutoring.

Permitting students from colleges other than units of The City University of New York to apply for tutoring should, in the opinion of the evaluator, also increase the potential supply of tutors. As a result, coordinators of CDD centers might be able to be more selective, and thus acquire better qualified tutors. Table 4 shows that during 1969-1970 there were two tutors who did attend private colleges.

In the opinion of the evaluator, another innovation which should facilitate recruiting would be to allow students to apply for employment as tutors regardless of their family income. It would be necessary to abolish the restriction that only college students who meet poverty criteria are eligible for tutoring. Since, according to Table 7, one quarter of the families of tutors had weekly incomes per family member which exceeded the poverty level, paying tutors who did not meet economic requirements would not set a precedent.

A significant aspect of recruitment is public relations. The evaluator concludes that greater emphasis should be placed on encouraging all personnel involved in the CDD program to publicize it. Graduates of the CDD program who attend college and CDD college consultants who teach and supervise prospective teachers are knowledgeable individuals who should be especially encouraged to influence potential tutors. Table 23 indicates that college placement offices and departments of education were the source of information about the program for only one-quarter of the tutors; word of mouth was a more frequent source. As more CDD students move from high school into college,

the source of information about the program for only one-quarter of the tutors; word of mouth was a more frequent source. As more CDD students move from high school into college, the source of some of the best potential tutors will increase. At the same time, additional means of publicizing the program and the need for tutors should be sought. One source of publicity is college newspapers, in which, for example, a feature story about a current tutor could appear. Such stories have already appeared in papers of most of the high schools with CDD centers. However, high school publications do not generally have a large collegiate audience. Attractive pamphlets and brochures about the tutoring program could also be prepared for distribution.

Training

After tutors had been recruited and hired, they needed to be oriented adequately to the CDD program and its tutoring services. All of the coordinators described orientation sessions which were held for tutors at the beginning of each school year. In those centers where tutors were also hired for the first time at the start of the spring term, orientation was provided again at that time.

However, such orientation sessions, while introducing the college student to his task, were, in the opinion of two center coordinators and the former tutor coordinator, not sufficient to insure a high caliber of tutoring throughout the year. Orientation which occurred only at the beginning of a tutoring assignment also could not compensate for whatever deficiencies tutors may have had in knowledge or in tutoring techniques. Although the tutor may have been able to discuss particular tutoring problems with the CDD coordinator, there was no indication that supervision, as a general rule, included systematic training.

In the opinion of the former tutor coordinator, what is needed are periodic training sessions in which city-wide meetings of tutors are scheduled in each major subject area--mathematics, science, foreign languages, English, and social studies. The planning for such meetings should be centralized under the direction of the coordinator of the tutorial program to insure greater efficiency. The services of curriculum specialists, such as the CDD college consultants and high school department chairmen and CDD teachers, could be used to develop the format

and content of workshops. Sessions could be devoted to the demonstration of tutoring techniques with opportunities for tutors to practice techniques with their tutees under the supervision of the curriculum specialist. Discussion of absences, lateness, ways of motivating tutees to achieve, and other problems encountered by tutors could be included. Tutors should be paid for attending, and attendance should be required as a condition of employment.

The prototype of this training program was a one-day tutor-staff conference held in December, 1968. Under the joint chairmanship of the coordinator of the CDD tutorial program and the coordinator of the CDD college consultants, the conference was attended by tutors, teachers, administrators, and college consultants involved in the CDD program. A particularly noteworthy feature of the conference was the "minisession," simulated tutorial sessions. A subsequent conference, conducted in April, 1969, focused on the CDD curriculum but did not include discussion of the tutoring sessions, and no tutors were present.

The primary value of training programs is the continuous nature of the support and feedback which they provide. A tutorial workshop held once in five years, or even once each year, is not, in the opinion of the evaluator, of sufficient frequency to serve the needs of otherwise untrained tutors, regardless of the thoroughness of their orientation. The establishment of training sessions on a regular basis should greatly benefit tutors and CDD students alike. The value of the one-to-one tutorial relationship would be substantially increased as the effectiveness of the tutor improved.

There is an additional advantage in instituting a program jointly planned by high school and college faculty involved in the CDD program. The original guidelines suggested that orientation and training are areas in which both high school and college faculty should plan an active role. Results of the present evaluation (see Table 19) indicate that tutor contact with h gh school faculty varied from school to school but generally was sporadic and unorganized. One coordinator said that teachers frequently communicated with tutors through notes delivered by tutees. Likewise, the association which tutors had with college faculty, such as the consultants, regarding tutoring services was minimal.[4] The evaluator feels that cooperation between

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[4]In response to a questionnaire prepared for the 11 CDD college consultants,

faculties in providing for tutor training would enable both to participate more fully in the CDD program.

Supervision

Since the inception of the CDD program, tutorial services have been centrally administered by the Coordinator of the Tutorial Program. In addition to performing other duties, the tutor coordinator has been responsible for the initial screening of tutor applicants, the maintenance of service and financial records such as tutor logs and timesheets, the compiling of statistical data, and preparation of annual reports. The position of tutor coordinator is one which provides necessary uniformity to the operation of the program. Beginning with the fiscal year 1971, recruitment and payment will be administered by the financial aid office of each tutor's college. Nevertheless, it is the opinion of the former tutor coordinator that centralized management of the tutoring program should be expanded. Increased publicity and the type of training program for tutors which are recommended above, as well as the systematic collection and processing of statistical data regarding the program, require coordination by a single person. These functions are most efficiently performed by a tutor coordinator with a thorough knowledge of all aspects of the program, both centrally and in the individual centers. Attendance at the monthly meetings of the administrative and guidance staffs of the CDD program have enabled the tutor coordinator and CDD center personnel to exchange information regarding matters of common concern. First-hand knowledge of the tutorial services in the individual centers and direct contact with tutors and tutees through visits to the schools would strengthen the role of the coordinator of the tutorial program. An increase in efficiency of operation of the total tutorial program should result.

Local administration of the tutoring program is the responsibility of the CDD center coordinator. He does the interviewing and final selection

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only one of the 9 respondents indicated he had met <u>often</u> with CDD tutors. One of the three consultants who said he had <u>seldom</u> met with tutors described the infrequent meetings as having occurred "during tutorial sessions (in double period classes). Though rare, these 'interventions' (were) generally fruitful." The five remaining respondents indicated they <u>never</u> met with tutors.

of the tutors, conducts orientation meetings, makes assignments of tutors and tutees, schedules individual tutoring sessions, maintains timesheets, and is responsible for overseeing the management of the entire tutoring program.

However, supervision of the tutoring program was only one of several functions performed by the center coordinator. He also planned culturally enriching activities and field trips, programmed courses for CDD students, participated in the selection and orientation of students, taught one class, prepared an annual report, and performed other duties in connection with the administration of the CDD Program. Center coordinators said they sometimes found that the pressures of these several tasks prevented them from providing the supervision which they felt necessary to insure optimum tutorial service. Interviews with coordinators revealed that some attempts were made to alleviate this pressure and provide closer supervision. In one center, a classroom teacher was regularly assigned the responsibility for management of the tutorial program, with a corresponding reduction in teaching load. At other centers, the scheduling of tutoring sessions facilitated supervision of the tutorial program. All tutoring in one center was conducted in a room adjacent to the coordinator's office. In another school, most of the sessions were scheduled in rooms located near one another. Groups met at the same time of day, a period which the coordinator reserved in his schedule for visiting groups and making himself available to meet with tutors. Where tutoring occurred as the regularly schedule activity during the second half of a double period class, the teacher was usually present.

In the opinion of the evaluator, the problem of supervision would not be completely remedied by providing additional time in the crowded schedule of the coordinator. The need is for supervision which will result in quality tutoring services. The center coordinator is a specialist in one area such as guidance, English, or mathematics. His ability to supervise and evaluate the quality of tutors' services in a subject other than his own may be very limited. One coordinator indicated that he was forced to rely on the judgment of tutees to assess tutor competence. Another admitted that only for "unreliability", such as excessive absence, were tutors dismissed. This same coordinator suggested that a college faculty

member be required to certify the competence of a college student before he could be hired for the tutoring. Recruitment and selection of tutors who are competent in their subject areas and the establishment of tutor training sessions conducted by subject specialists should alleviate the need for close supervision which coordinators found impossible to provide.

An additional aspect of the supervision of the tutoring program concerns the management of records. Collection of reliable data is essential for adequate evaluation of the program. More importantly, such data provide necessary feedback which bear on the administration of the program. The procedures which are used to obtain information greatly affect reliability and interpretability. The sample of tutor logs for May, 1970 which were analyzed by the evaluator suggest that revision and standardization of the reporting of activities by tutors is needed. The evaluator's previous discussion of the problems encountered in summarizing log data points to specific defects in the log format. If coordinators requested more precise information from tutors, a more accurate and complete picture of the tutoring services would be available. In the opinion of the evaluator, the tutor log requires revision, and the preparation of instructions is needed to standardize usage.

Delay in paying tutors, another difficulty in the management of the program, should be alleviated by a revision of practices announced by the Project Director at the May, 1970 meeting of CDD administrative and guidance personnel. Beginning in September, 1970, tutor paychecks will be issued every two weeks or semi-monthly. The period required to process payrolls will be reduced to four days.

One finding which emerged from the logs (Table 26) and to a lesser extent from the Tutor Questionnaire (Table 16) reveals a practice which appears to be in direct contradiction to the purpose for which the tutoring program was established. Tutors were paid for a vast number of hours devoted to non-tutoring activities. In Center V such activities were substantial. According to Table 26, seven out of every ten hours (136 of the 191 hours) of tutor time reported by the randomly selected sample of five tutor logs from that center for May 1970 were devoted to activities such as office work and field trips. Although tutors probably were serving as "role models" while accompanying students on trips, the primary purpose of the tutoring program, (providing instructional

aid) could not, in the opinion of the evaluator, have been accomplished. Neither function for which tutoring was envisioned in the original guidelines was served by tutors who performed clerical tasks in the absence of contact with CDD students. It is probable, as the coordinator mentioned, that the CDD program would have suffered or required extensive modification if tutor hours had not been devoted in such great numbers to paper work. However, such extensive use of tutor time appears to the evaluator neither to have benefitted the tutee directly, nor the tutor, except financially. Other provisions for obtaining clerical services should be sought so that college students hired as tutors can devote their talents primarily to the tutoring of school subjects.

In summary, the evaluator makes the following major recommendations concerning the CDD tutorial program:

1. The basic operation of the program should continue to be flexible enough to satisfy the needs of each CDD center, while at the same time insuring high quality of tutoring services.

2. To increase the potential supply of tutors, less restrictive requirements concerning working hours, family income, and college attended should be established.

3. To make tutoring more attractive to college students, the hourly rate should be raised and official college credit should be granted for tutoring.

4. As an aid to the recruitment of tutors, more vigorous publicizing of the program should be undertaken.

5. To insure a high level of tutor competence in the subject areas to be tutored, improved screening procedures need to be developed.

6. Training sessions in tutoring techniques should be instituted centrally with the assistance of curriculum specialists and teachers and conducted periodically throughout the year. Such a training program would relieve the already overburdened center coordinators of sole responsibility for assessing and maintaining tutor competence.

7. The role of the coordinator of the tutorial program should be expanded to include more effective central administration of training and supervision of tutors.

8. Revision of the tutor log and procedures for recording information on tutor activities would greatly aid compiling reliable statistics about

the program.

9. There should be more limited utilization of tutors in non-tutoring activities, such as clerical assignments and field trips.

10. A thorough assessment of the tutorial program would require an evaluation of the effect of tutoring on pupil achievement and motivation. Techniques for conducting such an evaluation should be developed.

APPENDIX

Notes on Comments from Coordinators Regarding
the CDD Tutoring Program

CDD Center I

The coordinator said that he had about 38 tutors, most of whom attended City College. An increasing number were former CDD students attending the local community college. Mathematics and foreign languages were the two areas of greatest academic weakness and, therefore, the ones in which demand for tutors was greatest. Tutors in Spanish were asked to help locate tutors in French, who were greatly in need but in short supply. Students who were able to tutor in mathematics were usually also able to tutor in chemistry and physics. Because most of the CDD students were avid readers, there was not a great need for tutoring in English. One exception was a student whose native language was Chinese and whose English was deficient.

Tutoring took place before and after school and in the library. Lack of space was a serious problem for tutoring (as well as for the entire CDD operation at Center I). Tutoring formerly was conducted in the cafeteria, which, lacking adequate supervision, became a "hangout" for students. Student lunch hours were discouraged as tutoring periods. Tutoring during the school day was on a one-to-one basis.

The tutoring activity generally dealt with homework or completed examination papers which CDD students brought to the sessions. When asked about the quality of the tutoring, the coordinator replied that due to the pressures of other responsibilities as coordinator, he was unable to maintain control over tutoring as he would have liked. In his opinion adequate supervision of the tutoring program is in itself a full-time responsibility. To detect incompetency, he relied on feedback from tutees, whom he considered an unreliable source of information since they felt guilty about reporting tutors who were incompetent. Tutors who had passed the preliminary screening by the Coordinator of the Tutoring Program of the City University could be rejected by the coordinator of Center I for any one of three reasons: 1. a tutee's report of tutor incompetence, 2. unavailability of the tutor when needed, and 3. insufficient number of hours a college student could devote to tutoring during the week.

CDD Center II

Most tutoring occurred during periods, 1, 2 and 8 in groups in classrooms made available for this purpose on a regular basis. Tutoring was available during other periods in the CDD office and in other locations in the school. Although most tutors attended either City, Queens or Brooklyn College, they generally lived in the neighborhood of the school and arrived at the center early in the morning, before going to college.

Biology, chemistry, mathematics, and Spanish were the most popular subjects for tutoring. Rarely were there demands for tutoring in English except in cases where CDD students were foreign born. In the opinion of the coordinator the reading level of CDD students was very high. Foreign languages and mathematics were the areas of greatest difficulty for CDD students, and, therefore, were subjects in greatest demand for tutoring.

Tutors were discouraged from permitting tutees to do their homework during tutoring sessions. Tutors were encouraged to use a diagnostic approach in an attempt to spot weaknesses. Rarely did tutors attend regular CDD classes.

The coordinator's personal assessment of the tutoring program was favorable. The primary strength of the program was the ability of the tutors to get along well with the CDD students. A major weakness of the program was the insufficient number of tutors, particularly in foreign languages and science, where it was difficult to obtain "top" students. Better recruiting methods were needed to obtain more and better qualified tutors in all subjects. The minimum qualifications (primarily economic) required by the CDD Program were not adequate to insure high quality tutoring. Tutoring was viewed by the coordinator at Center II in terms of the tutor's opportunity for professional development. The coordinator made a deliberate effort to develop a relationship with tutors, to make the rounds of rooms in which tutoring was conducted, and to provide individual orientation for tutors which would supplement the initial group orientation session. Two tutors were not regularly assigned to students but were kept available for "spot" tutoring. When they were not tutoring, these two tutors did clerical work in the CDD office.

CDD Center III

There were approximately 20 tutors, three of whom were former CDD II

students. Tutoring occurred in biology and mathematics classrooms during the second period of double period classes. Tutors generally attended both periods. Tutoring in other subjects occurred if requested by the student and was on a one-to-one basis. The policy of this center was that students who wanted individual tutoring had to request it, or the tutoring was "useless." Additional tutors were needed to provide tutoring for every student who requested it, even for seniors who had left the CDD classes and were taking regular academic subjects.

A teacher of geometry with whom the interviewer spoke commented on the quality of the tutoring. In her opinion, the tutors in mathematics were competent. At the beginning of the term they were unfamiliar with a new notational system. The teacher explained it to the tutors during part of one period, and no further difficulties occurred. This teacher assumed responsibility for the tutoring which occurred during her class period and was knowledgeable about the competency of the tutors and the quality of the tutoring. She felt that the tutors were very necessary and that the CDD students liked having the tutors. The class which was observed obviously needed more than the two tutors who were present.

CDD Center IV

CDD students who were most deficient in a subject were programmed for a double period class. Students who were not assigned a double period class but were nonetheless somewhat weak in the subject attended a single period class and received tutoring. Students who attended double period classes were not also eligible for tutoring in that subject. Most tutoring was in mathematics, foreign languages and biology. Tutoring occurred on a one-to-one basis, with each tutor frequently assigned only one tutee. Needy CDD students were often regularly scheduled for tutoring as part of their school program. Lack of space for tutoring was a problem. The balcony of the auditorium was used for tutoring during periods one through eight when the remainder of the auditorium was used as a study hall for non-CDD students. Tutoring was also conducted during lunch periods.

Although there was little opportunity for teachers and tutors to meet, some teachers had students deliver notes to tutors which suggested ways in which students might be helped. One of the mathematics teachers administered the tutoring program, for which she was relieved of one teaching

period.

The coordinator was particularly concerned about the difficulty of assessing the quality of tutoring, and suggested that there be required from a college faculty member a statement as to the prospective tutor's competence. It was the coordinator's practice to terminate the services of tutors who were unreliable.

In the opinion of this coordinator, the greatest need of the program was for more qualified tutors in all subjects. Due to the heavy demand for tutoring, other services, such as Arista, had to be relied upon to supplement needs of CDD students. It was particularly hard for this center, which was located in a middle-class neighborhood to find tutors who met the poverty criteria established for the CDD Program. Furthermore, because well qualified college students could obtain more money for tutoring elsewhere, the CDD tutoring salary was considered inadequate by students who might otherwise have been eligible as CDD tutors.

After school had ended, the interviewer had an opportunity to talk with one of the tutors. She was a former student, though not in the CDD Program, of the high school in which she was tutoring. She liked tutoring in the CDD program very much and thought it was helpful to the students. She said she had access to the textbooks used by her tutee. Although she was not able to confer with teachers, she had discussed her tutee with one of the CDD guidance counselors. Her attempts to interest her schoolmates in becoming CDD tutors had not been very fruitful.

CDD Center V

The number of tutors employed ranged from about 30 to 35, five of whom were graduates of CDD I. All students who received grades below 70 or 75 were tutored. Mathematics, science and, to a lesser extent, Spanish were the subjects most frequently tutored. There was very little tutoring of English, because there were double-period English classes. Students could also request tutoring. Tutoring occurred during study periods, lunch time and before school. The scheduling of tutoring was facilitated by the single-session schedule of the school. After school tutoring, not available in previous years, was discontinued because of the great distance traveled by so many CDD students and the necessity for many of them to be employed. Usually there was one, occasionally two, students assigned to each tutor.

Recruitment of tutors was not a problem. The coordinator considered the college students to be "a good group of tutors." Most attended the local community college or senior college units of The City University, or attended college elsewhere but lived near the school.

In addition to tutoring, the tutors also sat in the CDD office and did clerical work. The interviewer observed ten tutors at one time serving as office assistants. The coordinator indicated that tutors performed valuable and essential service to the CDD program by serving as office assistants. Without their clerical help, the program at Center V would have to be altered. During the period when they were assigned to the office, tutors frequently attended a class in the subject which they tutored.

Because all tutoring occurred in a room adjacent to the CDD office, supervision of the tutoring activity posed no problem. Tutors often met with teachers to discuss tutoring during lunch time or when teachers came to the CDD office.

High School Division
New York City Board of Education
110 Livingston Street
Brooklyn, New York 11201

The City University of New York
Division of Teacher Education
33 West 42 Street
New York, New York 10036

COLLEGE DISCOVERY AND DEVELOPMENT PROGRAM

TUTOR APPLICATION FORM

All information will be held in confidence.
Where choices are given, circle the appropriate number.

Kindly Print or Type

1. Name _____
   Last First Middle Initial

2. Address _____
   Number Street

   _____
   Borough Zip Code

3. Telephone Number _____

4. Social Security Number _____

5. Date of Birth _____

6. Sex: Male 1
   Female 2

7. Year: Freshman 1
   Sophomore 2
   Junior 3
   Senior 4

8. Are you a citizen of the United States? Yes 1
   No 2

9. College Attending: (check one)

Queens	01
Richmond	02
Brooklyn	03
Hunter Uptown	04
Hunter Downtown	05
City Uptown	06
City Downtown	07
York	08

Community College (indicate name):

_____ _____

10. Have you ever tutored before?

Yes 1

No 2

11. If "Yes": College Discovery Program?

Yes 1

No 2

Other: (Specify) _____ _____

12. Number of credits carried this semester:

Credits	
1-5	1
6-11	2
12-15	3
16-18	4
over 18	5

13. What is your Major? (Be specific) _____ _____

14. What is your Minor? (Be specific) _____ _____

15. How many credits have you in your major field? _____

16. Overall index: _____ _____

17. Indicate order of preference by numbering in proper squares (ex. 1, 2, 3, etc.)

English 01	Physics.....06
French 02	Chemistry 07
Spanish 03	Social Studies 08
Biology 04	Elementary Algebra.....09
Earth Science 05	Intermediate Algebra ...10
	Geometry 11

18. Number of credits completed in each subject you wish to tutor:

Subject _____ Credits _____

Subject _____ Credits _____

Subject _____ Credits _____

Subject _____ Credits _____

Subject _____ Credits _____

19. Do you have an outstanding college or state loan or have you received a National Defense Student Loan?

Yes 1

No 2

20. Type of Loan: College 1

State 2

National Defense 3

Other (specify) _____ _____

21. Amount of Loan: _____

22. Are you presently employed? Yes 1

No 2

If yes, enter your total weekly take-home pay $_____

23. If single, answer below:

a) Family's total weekly income (including parents and all other members of household excluding yourself): $_____

b) Total number of members in household (including yourself):____

24. If married, answer below:

a) Give total weekly take-home pay of spouse and other family members excluding your own and exclusive of parental financial assistance.

$_____

b) Total number of dependents (including yourself and spouse): ____

25. How will income from tutoring help you? Describe the needs. Be specific:

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

26. Are you a former CDD student? Yes 1

No 2

27. Schools in which you would consider working (Number order of preference):

Port Richmond High School
Innis Street and Saint Joseph's Avenue, Staten Island _____

Seward Park High School
350 Grand Street, New York _____

Thomas Jefferson High School
Pennsylvania and Dumont Avenues, Brooklyn _____

Theodore Roosevelt High School
500 East Fordham Road, Bronx _____

Jamaica High School
168th Street and Gothic Drive, Queens _____

28. If accepted, I am willing to tutor the high school students through June, Regents week, provided that I am permitted a reasonable amount of time to prepare for my college exams.

Yes 1

No 2

Indicate hours and days available for tutoring:

	Monday	Tuesday	Wednesday	Thursday	Friday
From - to					
From - to					
From - to					
From - to					

Please mail your application as soon as possible to:

Miss Mildred Kaye, The City University of New York, College Discovery and Development Program, 33 West 42 Street, New York, New York 10036

Name of Applicant _____

Address _____

Subjects to be tutored _____

_____

The City University of New York, *Division of Teacher Education*
College Discovery and Development Program
33 West Forty-Second Street, New York, New York 10036

212/790-4408 9

May 20, 1970

Dear CDD Tutor:

Enclosed with your May paycheck you will find a questionnaire related to the College Discovery and Development Tutorial Program. As we have in the past, we are asking for your assistance in evaluating the tutorial program. Your opinions and judgments will help us expand the positive aspects of the program and make changes where needed. Your answers will be held in the strictest confidence by the CDD staff and evaluators.

We would appreciate your completing the questionnaire and returning it in the enclosed addressed envelope prior to the issuance of your next paycheck. Time spent completing the questionnaire is considered part of your tutoring activities and should be reported on your June timesheet.

Do not hesitate to call (790-4426) should you have any problems in completing the questionnaire. Thank you for your cooperation.

Sincerely yours,

Mildred Kaye

Mildred Kaye
Coordinator, Tutorial Program

MK:eh

Enc.

High School Division
New York City Board of Education
110 Livingston Street
Brooklyn, New York 11201

The City University of New York
Division of Teacher Education
33 West 42nd Street
New York, New York 10036

COLLEGE DISCOVERY AND DEVELOPMENT PROGRAM

TUTOR QUESTIONNAIRE
12-9-70

1. I have been tutoring at the following high school. (Check one)

Jamaica _____
Jefferson _____
Port Richmond _____
Roosevelt _____
Seward Park _____

2. List subject (s), grade (s), and total number of students tutored during each semester.

Fall Semester			Spring Semester		
Subject	Grade	Total # of Students	Subject	Grade	Total # of Students

3. On the average, how many students did you tutor per session? _____

4. Did the students attend regularly as scheduled? Yes____ No ____
Comments: _____

_____

_____

5. When did tutoring take place? (Check all that apply)

During regular class periods_____
During study periods_____
During lunch periods_____
During home room perici_____
Before or after school hours_____
Other (Explain)_____

_____

_____

6. Where did tutoring take place?
(Check all that apply)

Library_____
Cafeteria_____
Empty Classroom_____
Office_____
Auditorium_____
Scheduled Class_____
Other (Explain)_____

_____

_____

7. The tutoring sessions are usually devoted to the following:
(Check all that apply)

Help with homework problems_____
Studying for examinations and/or regents_____
Reviewing classwork_____
Introducing new work_____
Other (Explain)_____

_____

_____

8. I was supervised by:_____

Supervision was: Adequate_____ Inadequate_____

Comments:_____

_____

_____

9. What materials did you use during the tutoring sessions? (Check all that apply)

Text books_____	Maps _____
Review books_____	Homework_____
Mimeo Sheets from Class____	Note Book_____
Classnotes_____	Workbook_____
Blackboard_____	Newspaper_____
Old tests_____	Flash Cards_____
Own Material_____	No Printed Material ___

Other (Explain)_____

_____

_____

10. What contact did you have with the classroom teachers?

None_____ Some_____ A great deal_____

Comments_____

_____

_____

11. Were you informed about what was being taught in the classroom?

Yes_____ No_____

If yes, how?_____

_____

_____

12. Did you have a copy of the textbook or other materials being used?

Yes _____ No_____

Comments _____

_____

_____

13. Did you engage in any outside activities with the students you tutored?

Yes_____ No _____

If yes, check all that apply.

Went on trips_____
Went to the theater, concerts, etc._____
Had them visit my college_____
Other activities (Specify)_____
_____
No activities_____

14. How did you find out about the CDD tutorial program?

I am a former CDD student_____
From a former CDD student_____
From a CDD tutor_____
From college placement_____
From college education dept._____
Other (Specify) _____
_____

15. Do you feel you were able to help students?

Yes, to a great extent _____
Yes, to a limited extent_____
No, not at all_____

Comments: _____

_____

_____

16. What were the reactions of the students you tutored? For example, were they enthusiastic or did they come because they "had to". Did they bring questions or wait for you to suggest something? Please comment honestly and fully. (Use back of page if more space is needed.)

_____

_____

_____

_____

_____

17. What are your reactions to the tutoring program? Please comment honestly and fully. (Use back of page if more space is needed.)

Date_____

Signature_____

Your answers will be held in the strictest confidence by the CDD staff and evaluators. Thank you for your cooperation.

MK:4/70

THE CITY UNIVERSITY OF NEW YORK
COLLEGE DISCOVERY AND DEVELOPMENT PROGRAM
33 West 42nd Street
New York, New York 10036

School _____

Tutor _____

DATE	TUTORING HRS FROM	TO	STUDENT (S)	SUBJECT (S)	MATERIALS USED	OBJECTIVES OF TUTORING

Table 28

Sex of Tutors, by Center

CDD Center	Sex				Total Number
	Male		Female		
	No.	%	No.	%	
I	21	53.8	18	46.2	39
II	21	67.7	10	32.3	31
III	19	46.3	22	53.7	41
IV	17	53.0	15	47.0	32
V	19	47.5	21	52.5	40
All Centers Combined	97	53.0	86	47.0	183

Table 29

Year in College of Tutors, by Center

CDD Center	College Year								Total Number
	Freshman		Sophomore		Junior		Senior		
	No.	%	No.	%	No.	%	No.	%	
I	8	20.5	12	30.8	6	15.4	13	33.3	39
II	13	41.9	6	19.4	6	19.4	6	19.4	31
III	7	17.0	13	31.7	12	29.3	9	22.0	41
IV	3	9.4	7	21.9	11	34.4	10	31.3	32*
V	3	7.5	12	30.0	10	25.0	15	37.5	40
All Centers Combined	34	18.6	50	27.3	45	24.6	53	29.0	183*

*Includes one student who did not indicate year in college.

Table 30

College Affiliation of Tutors, by Center (In percentages)

College	Center						
	I	II	III	IV	V	Total	No.
City	43.6	6.5	29.3	12.5	--	19.1	35
Brooklyn	--	61.3	22.0	--	2.5	15.8	29
Queens	--	9.7	2.4	75.0	--	15.3	28
Richmond	--	6.4	--	--	62.5	14.8	27
Hunter	7.7	--	29.3	--	2.5	8.7	16
Lehman	17.9	--	4.9	--	--	4.9	9
Bronx Community	30.8	--	2.4	--	--	7.1	13
Staten Island Comm.	--	--	--	--	32.5	7.1	13
N.Y.C. Community	--	6.5	4.9	--	--	2.2	4
Other*	--	9.6	4.9	12.5	--	4.9	9
						99.9	
No.	39	31	41	32	40		183

*Includes 3 tutors from Queensborough Community College at Center IV; and 1 tutor each from N.Y. Community College, Baruch College, Pratt Institute (Center II), Fordham University, and Manhattan Community College (Center III). One tutor did not indicate college affiliation.

Table 31

College Credit Load of Tutors, by Center

Center	Number of Credits								Total Number
	6 - 11		12 - 15		16 - 18		Over 18		
	No.	%	No.	%	No.	%	No.	%	
I	3	7.7	28	71.8	8	20.5	-	--	39
II	2	6.5	19	61.3	8	25.8	2	6.5	31
III	3	7.3	23	56.1	13	31.7	2	4.9	41
IV	5	15.6	18	56.3	8	25.0	-	--	32*
V	2	5.0	21	52.5	14	35.0	3	7.5	40
Total	15	8.2	109	59.6	51	27.9	7	3.8	183*

*Includes one tutor who did not indicate number of credits.

Table 32

Major Area of Tutors' College Study, by Center (In Percentages)

Major	Center Percentages						No.
	I	II	III	IV	V	Total	
Foreign Language	5.1	6.5	7.3	9.3	15.0	8.7	16
Mathematics	10.2	6.5	14.6	6.5	5.0	8.7	16
Science	23.7	19.3	9.7	12.5	25.0	18.0	33
Soc. & Polit. Sci.	10.2	25.8	29.2	28.2	17.5	21.8	40
History	--	--	4.8	3.1	7.5	3.3	6
English & Speech	10.2	6.5	12.1	21.8	7.5	11.5	21
Fine Arts	7.3	3.2	4.8	6.2	5.0	5.5	10
Other	20.5	16.1	12.9	12.5	17.5	15.9	29
No Information	12.8	16.1	4.8	--	--	6.6	12
						100.0	
No.	39	31	41	32	40		183

Table 33

Weekly Income of Tutors' Family, per Family Member (By Center)

Center	$0 - 20		$21 - 40		$41 & Above		No Reply		Total Number
	No.	%	No.	%	No.	%		%	
I	11	28.2	13	33.3	11	28.2	4	10.3	39
II	5	16.1	13	42.0	9	29.0		12.9	31
III	5	12.2	24	58.5	8	19.5	4	9.8	41
IV	3	9.4	15	46.9	11	34.3	3	9.4	32
V	4	10.0	15	37.5	6	15.0	15	37.5	40
Total	28	15.3	80	43.7	45	24.6	30	16.4	183